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**RELATIONSHIP BETWEEN CULTURAL INTELLIGENCE, EMPLOYEE
ENGAGEMENT AND EMPLOYEE INNOVATIVE WORK BEHAVIOUR**

Master's thesis

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Name and signature of supervisor.....

Allowed for defence on (date)

I have written this master's thesis independently. All viewpoints of other authors, literary sources and data from elsewhere used for writing this paper have been referenced.

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Signature of author

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ABSTRACT

Due to the rapid growth in globalisation and incorporation of inclusiveness and diversity in today's workplace, cultural intelligence is occupying a pivotal role in enhancing organisational effectiveness, competitive advantage and improved social welfare for employees. Little research has been conducted on cultural intelligence's role in enhancing employee engagement and innovative work behaviour. Therefore, this thesis aims to extract the relationship between cultural intelligence, employee engagement and employees' innovative work behaviour. This research was conducted using a cross-sectional survey design and a quantitative approach. The dataset consists of 104 local and international employees who were conveniently sampled from various industries in Estonia. The Pearson correlation and regression analysis evaluated the relationships between cultural intelligence, employee engagement, and employees' innovative work behaviour. The results indicate that cultural intelligence significantly has a relationship with employees' engagement and innovative work behaviour. The obtained results provide important managerial and theoretical implications, limitations and future recommendations in this field of research.

KEYWORDS: Cultural Intelligence, Employee Engagement, Employee Innovative Work Behaviour, Innovative Work Behaviour

1.0 INTRODUCTION

Culture intelligence has emerged as a result of globalisation. Globalisation is characterised as the movement of people, ideas, goods, knowledge, and culture across international borders (*Issues Brief - Globalization: A Brief Overview*, n.d.). Therefore, there is a need to highlight competencies that makes individuals effective in a cross-cultural environment, which has become vital to management, scholars and practitioners (Fang et al., 2018).

The concept of cultural intelligence, also known as a cultural quotient ('Cultural Intelligence', 2021), emerged in 2002 by Christopher Early (2002) and was further developed by Early and Soon Ang (2003). According to Earley (2002), cultural intelligence is a person's ability to adjust to new cultural settings with multiple features such as cognitive, motivational and behavioural features. Earley and Ang (2003) also defined cultural intelligence as "*An individual's capability for successful adaptation to new cultural settings, that is, unfamiliar settings attributed to cultural context*" (p.9).

Hence, Fang (2018) carried out a qualitative study that entailed a detailed review of 142 empirical articles on cultural intelligence. The analysis from this study shows several issues that are relevant in today's research, such as: to what extent can a person develop cultural intelligence, the dark sides to cultural intelligence, the role it plays as a predictor of group performance and lastly, cultural intelligence in the next phase of business concerning the recent happenings in the business world.

The argument by Fang (2018) highlighted the importance for organisations to remain competitive, own market share, and achieve organisational success, which results in continuous innovation. In other words, innovation is a crucial strategy for every organisation. For innovation to occur, an organisation must be composed of individuals. Therefore, individuals' actions are essential for continuous innovation and improvement (Jong & Den Hartog, 2010). As a result, employees' innovative work behaviour in an organisation is introduced.

Moreover, diversity in the workforce results in flexibility and stimulation of idea generation. However, some issues arise during this phase. To control the challenges that emerge with cultural diversity, employees must be willing and open to interacting with other employees with different

cultural backgrounds to successfully engage in innovative activities (Afsar et al., 2020). This competence in employees is called cultural intelligence, which is crucial in day-to-day interaction.

To support understanding the relation of cultural intelligence in the workplace, cultural intelligence as a concept will not be complete without looking at the term “Employee Engagement”. Kwon & Kim (2020) sums up the definition of employee engagement as an activated state of an individual's self to contribute something unique and different to the workplace. Employee engagement establishes a solid and motivated basis for behaving, which helps employees work smarter and more effectively. Due to the synergy of cognitive, meta-cognitive, emotional/behavioural and motivational facets of cultural intelligence fits perfectly into employee engagement and innovative work behaviour, representing a change in idea generation, promotion and realisation of doing something different (Kwon & Kim, 2020).

Neto (2021) expanded the vitality of cultural intelligence in a cross-cultural environment, especially in the workplace, where employees are valued because they can work with people from diverse cultural backgrounds. With that being the case, an individual's crucial competence is understanding cultural differences and possessing an essential skill of cultural intelligence. The lack of cultural intelligence leads to unawareness and lack of knowledge, making innovation more challenging. Hence, cultural intelligence is needed by employees to address diverse organisational cultures and interact effectively with other members of the organisation (Afsar et al., 2020).

Most scholars have focused on expatriates (Crowne, 2008), and migrant workers (Fan et al., 2020). However, this thesis seeks to address the need to better understand the relationship between cultural intelligence, employee engagement and employee innovative work behaviour, with more focus on local and international personnel in the workplace within the Estonian environment, especially in this period of uncertainty.

In addition, according to the Global Innovation Index (2021), Estonia is ranked 21st innovative country in the world and 13th in Europe (Soumitra et al., 2021.). On this note, this thesis also seeks to address the relationship between cultural intelligence, employee engagement and employee innovative work behaviour of both local and foreign employees working in Estonia, as this study has not been conducted in Estonia before, even though Estonia is recognised as an innovative country.

When indigenes work with other employees from other countries, they need to understand how to work with them. Therefore, this research work adds novelty to the work of intelligence, specifically cultural intelligence, by integrating it with innovation; as Ng et al. (2012) say, novelty “adds a novel and elegant theoretical framework for thinking about intercultural competencies” (p. 3).

To this, the author highlights below the research objectives, research question and research task to help in the direction of this thesis.

1.1 RESEARCH OBJECTIVES

1. To find out how cultural intelligence relates with employee engagement and innovative work behaviour.

This paper aims to answer the following research questions;

1. How does cultural intelligence relate with employee engagement?
2. How does cultural intelligence relate with employee innovative work behaviour?

1.2 RESEARCH TASK

1. To review the literature on cultural intelligence, employee engagement and innovative work behaviour
2. To check the literature on the relationship between cultural intelligence and employee engagement; and the relationship between cultural intelligence and employee innovative work behaviour.
3. To explain the methods that guided this study
4. To analyse the collected findings and discuss them within the context of the research questions

2.0 LITERATURE REVIEW

In this section, cultural intelligence is reviewed to explain the relationship between cultural intelligence, employee engagement and employee innovative work behaviour. A brief review of employee engagement and employee innovative work behaviour was also examined while drawing analysis from other studies.

2.1 CULTURAL INTELLIGENCE

It is commonly said that “no man is an island”, which brought about the concept of globalisation. Cultural intelligence is a product of globalisation. Miotti (2019) defines globalisation as the integration and interconnection of the world’s economy. In today’s world, one of the highly valued skills is the skill to constantly adapt to people from diverse cultures and maintain interconnection to changes in today's environment. To successfully do this, one needs to be culturally intelligent (Earley et al., 2006). Table1 below summarises different components/features looked into by various scholars.

Table 1: Definition of cultural intelligence by other authors.

Authors	Cultural Intelligence Component	Aim
Earley (2002)	(a). Cognitive CQ: (declarative and procedural knowledge, meta strategies), (b). Motivational CQ: (Efficacy, goals & effort, perseverance) and (C). Behavioural CQ: (repertoire, mimicry, habits & rituals) facet	To improve understanding of intercultural interactions
Earley & Ang (2003)	Cognitive, Motivational and Behavioural elements	Focused on assessment and application to intercultural interactions.
Crowne (2008)	Metacognition, Cognition,	

	Motivation and Behaviour	
Thomas (2008)	Comprised cultural knowledge, cross-cultural skills, and cross-cultural interactions which emanate from meta-cognition	Carried out a conceptual study to add to the understanding and definition of cultural intelligence
Polák-Weldon (2010)	Cognitive, Metacognitive, Motivational and Behavioural components	
Barakat (2015)	Meta-cognition, Cognition, Motivation and behaviour.	Meta-cognition, Cognition and Motivation refer to mental capabilities. While the behaviour CQ refers to verbal and non-verbal capabilities.
Mangla (2021)	Cognitive, Meta-cognitive, Motivational, Behavioural	(a). The cognitive component refers to knowledge. (b). Meta-cognitive CQ refers to being mindful. (c). Motivational CQ refers to self-efficacy and intrinsic. (d). Behavioural CQ refers to both verbal and non-verbal actions.

Source: Prepared by the author.

Note: Where CQ = Cultural Intelligence.

Cultural intelligence can be defined as the ability to function and bridge the gap between cultural differences (Wang et al., 2020). Earley & Ang (2003) identified three parts to cultural intelligence: cognitive (comprises of meta-cognitive), motivational and behavioural CQ. However, some

researchers, Fang (2018); Neto (2021); Ott and Michailova (2018), identified a fourth aspect of cultural intelligence called metacognitive to the above three mentioned earlier.

Metacognitive is seen as an individual's awareness and understanding of one's thoughts. It refers to how individuals process and use processed information (Neto et al., 2021). The metacognitive aspect of cultural intelligence means the knowledge an individual holds about culture and knowledge of how things operate (Earley et al., 2006).

The cognitive component refers to knowledge about other cultures that people collect for future utilisation (Neto et al., 2021). Earley and Ang (2003) added that cognitive cultural intelligence is the skills needed in acquiring knowledge, manipulation and reasoning of information to help conceptualise the *how-to's* in a new culture and the knowledge that comes with it. Li (2020) believes cognitive cultural intelligence is an individual trying to understand the similarities and differences between other people's cultures with theirs.

Similarly, in motivational cultural intelligence, an individual must be able to not only understand the knowledge behind a culture but also be willing to engage and interact with others from a different culture in a given setting (Earley & Ang, 2003). Motivation is a crucial factor in the concept of cultural intelligence, as motivation births adaptation (Earley & Ang, 2003). Li (2020) equates motivational cultural intelligence to the energy an individual applies in learning about other cultures.

Earley & Ang (2003) sees the behavioural element as the combination of the cognitive and motivational elements to take an act of engagement. The behavioural element combines the *how* and *what*, but most importantly, the energy to keep thriving (Li, 2020). In other words, the labels of cultural intelligence may vary. Still, they have a standard view of what constitutes cultural intelligence (Fang et al., 2018) as they were all generated from the foundational concept by Earley & Ang (2003).

With consideration to other studies in this field (Earley, 2002; Ng, 2012; Thomas, 2008) developed a conceptual research to add more definition and meaning to the concept of cultural intelligence, while Ang (2007) enhanced the theoretical aspect of cultural intelligence. Another author, Fang (2018), reviewed 142 empirical studies, nine conceptual, 28 theoretical and 149 empirical studies. This author further analysed the methods: 128 studies focused on quantitative,

14 focused on qualitative methods (interview, case studies and content analysis) to measure cultural intelligence. The common sample used by these 142 empirical studies were students and expatriates in the work environment.

Moreso, Neto (2021) aimed to validate and demonstrate the short-form measure of cultural intelligence (SFCQ) tool in the Portuguese version. The author reviewed three studies that validated the short-form measure of cultural intelligence (SFCQ) instrument. The first study performed t-test, descriptive statistics, CFA, Pearson and internal consistencies on a sample of 217 college students from the Instituto Politécnico of Bragança. The first study resulted in the validity of the Portuguese SFCQ, while the second study aimed to analyse the concurrent validity of SFCQ and considered the four components of cultural intelligence. The data was collected from 195 students from the University of Porto; the data analysis method was the same as the first study; the result showed that it supported the convergent and concurrent validity of the Portuguese SFCQ.

Lastly, the third study analysed the reliability and validity of SFCQ among international students from Brazil going to Portugal. It collected data from 181 students from Brazil attending the University of Porto, and the data analysis was the same in these three studies. The result supported the validity of SFCQ in the Portuguese version.

Another study by Mangla (2021) aimed to investigate the impact of the four dimensions of cultural intelligence (meta-cognitive, cognitive, behavioural and motivational cultural intelligence) on virtual teams' effectiveness. The study surveyed ten individuals working virtually from India during this pandemic period of COVID'19. The result gotten from this survey shows that behavioural cultural intelligence predicts virtual team effectiveness and addresses challenges faced by the team.

Further findings from this study showed that individuals working abroad have a higher level of cultural intelligence and virtual team efficacy than indigenes working in their own country. The researcher included a posthoc test which demonstrated that motivational and behavioural cultural intelligence increases with work experience.

Consequently, a survey by Barakat (2015) used the CQ scale by Ang (2007); data analysis from this study was conducted via SPSS and aimed to examine the effect of cultural intelligence on the job performance of global managers. The author surveyed 332 global managers from multinational companies in Brazil, where job satisfaction was a mediating factor tested on cultural

intelligence as the main factor. The survey found that global managers in international companies with high cultural intelligence show more satisfaction and perform stronger at their given tasks.

From the above research analyses, these authors exhibited that cultural intelligence as an independent variable is a powerful and crucial factor, especially in an era of globalisation and uncertainty. Therefore, the author of this thesis views cultural intelligence as a significant independent variable that relates with its dependent variable, employee engagement and employee innovative work behaviour.

2.2 EMPLOYEE ENGAGEMENT

Employee engagement is a crucial element in an organisation due to its ability to change the approach to demands in the work environment, thereby reducing stress and facilitating efficiency and effectiveness (Gabel-Shemueli et al., 2019). Shuck and Wollard (2010) define employee engagement as an engagement that concerns the individual and not the masses and as an element that cannot be mandated or forced. These researchers, Shuck and Wollard (2010), also added that engagement in work activities is the employee's personal experience, is the same as the individual's human nature.

Table 2: More definitions and analysis on employee engagement.

Author	Definition of employee engagement	Analysis of research
Shuck and Wollard (2010)	Employee engagement contributes positivity and energy to the workplace (Shuck & Wollard, 2010).	The researcher carried out a conceptual study using an integrated literature review to define and situate the concept of employee engagement within the Human Resource Development field. The researcher reviewed 159 articles, whereby 26 articles were empirical, 12 were origins of the concept, and 8

		were seminal works. The study findings were on early conceptualisation and contemporary conceptualisation of employee engagement.
Brad (2011)	Brad (2011) agrees with the definition given by Shuck. & Wollard (2010) as an individual employee's cognitive, emotional and behavioural situation with achieving organisational objectives.	This study was done using a post-data collection and content analysis. Semi-structured interviews were conducted, recorded observations and collection of documents. It focused on the conceptual framework of employee engagement. Findings from this paper highlighted the development of relationships and the importance of employees' direct managers in shaping the organisation's culture in the workplace. This research is noted to be the first qualitative study of employee engagement in the HRD (Human Resource Development) literature.
Wollard and Shuck (2011)	Wollard and Shuck (2011) define employee engagement as constructs and strategies that an organisation and its	This research paper used the structured literature review as the method of study. A total of 265 abstracts were reviewed.

	managers reap from employees.	<p>Relational analysis was used to identify the variables and concepts related to the concept of employee engagement.</p> <p>The findings of this research included conceptual and empirical perspectives, and 42 antecedents were grouped at individual and organisational entities.</p>
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Source: Prepared by the author

As stated in Min (2021); González-Romá (2006), work engagement is a positive, fulfilling, work-related state of mind that is brought to life by vigour (i.e. energy), dedication (i.e. engagement) and involvement in one’s task and absorption (i.e. concentration). Vigour, dedication and absorption are essential elements in employee engagement behaviour in the workplace (González-Romá et al., 2006).

2.3 INNOVATIVE WORK BEHAVIOUR

According to Li & Hsu (2016) and Janssen (2004), employees' innovative work behaviour is the cornerstone of an organisation's innovation. Hence, it is a vital asset that makes an organisation stand out in today's competitive business world (Fang et al., 2018). It is not only a result of individual thinking but the addition of social interaction among individuals from different cultures, backgrounds and knowledge (Fan et al., 2020).

Employees' innovative behaviour creates innovative output, as creativity is a vital component of an employee’s innovative behaviour, especially at the beginning of innovation (Jong & Den Hartog, 2010).

In addition, table 3 below aims to analyse research work carried out in this field of employee innovative work behaviour, putting its study, aim, and result from the research into context.

Table 3: Analysis of results from other authors.

Authors	Methodology	Findings/Result
Kang (2016)	<p>This paper used multi-source data from 105 managers and 9 CEOs via the distribution of questionnaires.</p> <p>It was tested using multi-level structural equation modelling (MSEM).</p> <p>A systematic sampling procedure was used in selecting companies. Then a random sample technique was then used to streamline the companies selected using a systematic sampling procedure.</p> <p>The researcher tested hypotheses using the multi-level structural equation modelling (MSEM) to test for indirect and direct multilevel moderated mediation between variables. A two-level model was employed to measure innovative variables and other mediating variables.</p>	<p>The findings from this paper are both theoretical and practical. They include innovative behaviour that is positively related to innovative climate indirectly via passion for inventing.</p> <p>Another finding from this paper is a strong relationship between innovative behaviour and passion for inventing as the risk increases.</p> <p>Also, the most robust finding is the indirect relationship innovative climate has with innovative work behaviour, especially when the risk involved and proactiveness are high.</p>
Li & Hsu (2016)	This research examined 143 papers on employee innovative work behaviour in	The study identified three approaches to examine employee innovative

	<p>the service industry. The study's objective was to conduct a comprehensive review of employee innovative work behaviour literature focusing on the service industry.</p>	<p>behaviour:</p> <ul style="list-style-type: none"> - Assimilation approach: which focuses on similarities of innovation, however, putting more emphasis on the manufacturing sector (technology and intellectual property) - The differentiation approach: which pays more attention to the features of services, emphasising the role of frontline employees. - The last approach, the synthesis approach, merges the similarities and differences of employee innovative work behaviour in the service and manufacturing industry.
<p>Knezović & Drkić (2020)</p>	<p>Knezović & Drkić (2020) investigated the determinants of innovative work behaviour by examining the moderating role of transformational leadership in the context of SMEs. 371 employees were surveyed</p>	<p>The author found the determinants of innovative work behaviour such as participation, empowerment and organisational justice.</p>

	<p>via distribution of questionnaires (printed and online versions) in Bosnia and Herzegovina and adopted the convenience sampling technique.</p> <p>Hypothesis testing was carried out via hierarchical regression. However, data collected via convenience sampling and cross-sectional survey limited the generalisation of results.</p>	
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Source: Prepared by the author

In addition to the analysis above, an empirical study by Åmo (2005) shows that employees involve themselves in innovative behaviour to achieve the organisation's objectives. Also, a research was carried out on 402 participants in China, using a structural equation modelling and multilevel regression analysis, which displayed that employees thriving at work are positively related to organisational support of innovation, which is positively related to employee innovative work behaviour. These analyses show the relevance of innovative employee behaviour in an organisation, which stretches to the fact that employees need to be engaged to develop new ideas, which can be as an individual or in groups. However, overall interaction of knowledge is vital; this is where cultural intelligence comes into play.

2.4 CULTURAL INTELLIGENCE AND EMPLOYEE INNOVATIVE WORK BEHAVIOUR

An employee's ability to deal effectively with organisational cultural differences (Hu et al., 2019) and interact with individuals from various cultural backgrounds is referred to as cultural intelligence. For innovative work behaviour to be successful, employees must involve themselves and others in innovative activities to benefit the organisation's goals and objectives (Åmo, 2005). This is why employee innovative work behaviour is considered a vital asset that makes an organisation stand out in today's competitive business world (Fan et al., 2020).

A cross-sectional study with 381 participants from multinational corporations in Saudi Arabia done by Afsar (2020) aimed to examine how cultural intelligence enhances employee innovative work behaviour via work engagement and trust. This research showed that cultural intelligence could significantly affect innovative employee behaviour. A further result showed that work engagement and interpersonal trust indirectly affect cultural intelligence and employee innovative behaviour.

Another research done by Azevedo & Shane (2019) introduced a cultural intelligence training program that combines the components of cultural intelligence- knowledge, also known as a cognitive component, meta-cognitive, motivational and behavioural components. It follows a schooling technique that balances the traditional and experiential methods. The researcher also introduced other elements, such as mindfulness which were acknowledged in articles on cultural intelligence (Fang, 2018; D. Thomas, 2015; D. C. Thomas, 2008). A longitudinal pilot was designed to test the effectiveness of the training program on two groups of participants: MBA students from the University of California USA and Human Resource (HR) employees from an energy company in Saskatchewan Canada. The result from this study shows that while the participant's cultural intelligence increased, there was a significant increase in the participant's innovative work behaviour for both groups.

Furthermore, an empirical study conducted by Fan (2020) explored the effect of cultural intelligence on the innovative work behaviour of migrant workers. He gathered data from 386 Chinese migrant workers and their supervisors based in South Korea. The study showed that these migrant workers' cultural intelligence positively impacted their innovative work behaviour via enhanced knowledge sharing. However, the result also showed an indirect relationship that was significant for only migrant workers based on a strong inclusion climate. Consequently, high cultural intelligence assists employees in obtaining informational support from colleagues to obtain innovative ideas and partake in innovative behaviour (Hu et al., 2019). Therefore in this study, we state that cultural intelligence can bring employees diverse information and support from colleagues (Fan et al., 2020), which can drive creativity, innovation and take on challenging tasks in order to generate fresh and practical ideas at the workplace (Hu et al., 2019). Hence, why the incumbent study sought answer for the research question: how does cultural intelligence relate with employee innovative behaviour?

2.5 CULTURAL INTELLIGENCE AND EMPLOYEE ENGAGEMENT

Today, organisations are made up of people with diverse backgrounds, cultures, nationalities, ethnicities, and regions (Afsar et al., 2020). Diversity is a core element in the business world, and every organisation fights for diversity and inclusivity. With diversity comes some challenges. In order to mitigate cultural diversity in the workplace, employees must be willing to interact with employees from different cultural backgrounds and build relationships with people who are different from them in all aspects (Afsar et al., 2020).

Employee engagement is considered a vital attribute due to its capability to make a difference in perception and encourage adjustment (Gabel-Shemueli et al., 2019). Engagement is a positive motivational work-related state of fulfilment, characterised by vigour, dedication and absorption (Christian, 2011; Gabel-Shemueli, 2019). Therefore employees high on engagement are typically energised and exhibit a high level of enthusiasm towards their work. Likewise, individuals with high cultural intelligence have a greater desire and drive to facilitate interactions and participate in intercultural activities in the workplace. In addition to the above statement, individuals with high cultural intelligence can cognitively plan and manage potential challenges arising from multicultural interactions because they are better informed and more knowledgeable about their cultural environment (Gabel-Shemueli et al., 2019).

With that being said, a study contributed by Gabel-Shemueli (2019) aimed to examine the effect of cultural intelligence on work engagement in a multinational organisation from the viewpoint of conservation resource theory. The experiment was carried out on 219 employees in a multinational company and tested using a partial least square method. The findings suggested that cultural intelligence is positively related to work engagement. In addition to the above result, Min (2021) carried out a theoretical and practical experiment on 288 restaurant employees in Hawaii, United States, to examine the impact of cultural intelligence on employee engagement, burnout and job satisfaction, putting into context, the four dimensions of cultural intelligence- motivational, behavioural, cognitive and meta-cognitive components. The result showed that motivational cultural intelligence predicted employee engagement and burnout, while cognitive cultural intelligence projected employee engagement. In total, motivational and cognitive cultural intelligence indirectly impacted employee engagement. This shows that cultural intelligence is a critical skill an employee should have to influence the motivation of employee engagement in a multicultural setting (Schalk & Linden, 2012). In this light, the incumbent study investigates the research question: how does cultural intelligence relate with employee engagement?

3.0 METHODOLOGY

In this section, the author describes the research method, design, area of study, population of the study, sampling technique, sample size, types and sources of data, the instrument for data collection, procedures for data collection, measures and the statistical tools employed for data presentation.

3.1 POPULATION AND RESEARCH DESIGN

This study was conducted using a cross-sectional survey design to measure the relationship between cultural intelligence, employee engagement, and innovative work behaviour. The population of this study is based on both local and international employees working in different industries in Estonia. Also, questionnaires were adopted to test the empirical relationship between cultural intelligence, employee engagement and innovative work behaviour.

From Table 4 in the appendix section, a total of 104 responses were gathered. The major participants in this survey- 51.9% were men ($n = 54$), followed by 46.2% were female ($n= 48$) and 1.9% prefer not mention. 60.6% were between ages 26-35 yrs ($n= 63$), 56.7% were single ($n= 59$), and 44.2% has a Masters degree ($n= 46$), 36.5% are bachelor degree holders ($n =38$), 9.6% are PhD holders ($n= 10$), 6.7% are high school graduates ($n = 7$), 1% each are vocational ($n= 1$), HND ($n=1$) and other degrees ($n =1$) holders.

In terms of the industry that respondents belonged to, 24% of them are employees in the Fintech industry, 22.1% are in Education, 9.6% in Transportation, 7.7% in IT, 3.8% in Tech, 3.8% in Health care, 1.9% employees each belong to industries such as Banking, Architecture, Production, Real Estate, Sales, ICT, Telecommunication, Service provider, and 1% of the respondents each belong to Creatives, Design, Digital Marketing, E-commerce, Engineering, Electronics, Government, Consultancy, Law, Marketing and others. Subsequently, 39.4% of employees have spent up to one year with their current organisation ($n=41$), and 26.9% spent 1-2 years ($n= 28$) in their current workplace.

Considering the overall work experience of respondents ranges from 26.9% for 3-5 years ($n= 28$), 24% for 5-10 years ($n= 25$), 22.1% for above 10 years ($n= 23$), with the majority of years of experience being 26.9% for 3-5 years ($n= 28$), which implies that most respondents from this survey have work experience of 3-5 years. Their skills and experiences suggested that they had gathered knowledge and personal experience and understood and communicated with people from various cultures, values, norms, and backgrounds.

Of the nationalities represented, 34.6% are Nigerians, 22.1% are Estonians, 2.9% are British, 2.9% are Azerbaijan, 2.9% are Russians, and 2.9% are Pakistanis. In addition, each of the following nationals also made up 1.9%, such as Chinese, Iranian, Georgian, Cameroonian, Belarus, Ukrainian, Germanian, Americans, and Zimbabwean. Lastly, 1.0% is made up of each national such as Kazakhstan, Mexican, Hungarian, Indonesian, Thai, Liberian, Indian, Mauritius, Polish, Latvian, Romanian, South Korean, Portuguese, Australian, and Turkish. In summary, the survey accounted for 23 locals as Estonians and 81 international employees from various nationalities as explained above. This gives an overview of the demographic statistics from this survey.

3.2 SAMPLE TECHNIQUE AND SAMPLE SIZE

A convenience sample of 104 employees was utilised to collect data from participants- local and international personnel in different industries present in Estonia. According to Hair (2019), regression sample sizes are characterised by having an appropriate small sample size of 30 observations with a single independent variable. The researcher also added that a larger sample size of 1,000 observations or more makes the statistical significance tests overly sensitive.

Memon (2020) also contributed that a large sample size can make the relationship between variables statistically significant even when it's not. This is not to dismiss the collection and reason behind large small size but to address the fact that the way data is collected as part of its research design is more vital than investing so many resources to blindly collecting data in order to increase the sample size (Memon et al., 2020). As Memon (2020) highlighted, the robustness of any sample is dependent on the careful selection of respondents rather than its size.

Hence convenient sampling technique was employed in this research. It was used in this study because of its simplicity and the timely manner of this research paper to provide quick results, save cost, ease of use, and provide qualitative information.

3.3 PROCEDURE FOR DATA COLLECTION

The questionnaire was distributed online via google forms to employees in the various industries and occupation focus groups on social media. The literature used was obtained from the University of Tartu databases such as ScienceDirect, Scopus, and Web of Science databases. Other databases used are Researchgate and Google Scholar. In addition, keywords used in searching for articles include cultural intelligence, employee engagement, employee innovative behaviour, innovative work behaviour, and also merging each dependent variable with the independent variable (cultural intelligence). A total of 52 articles were downloaded, and 48 articles were relevant to the study and used to build the conceptual framework of this research paper.

During the survey, the questionnaire was administered via google forms. The google forms links were distributed to employees in various organisations and via social media focus groups targeted toward employees in Estonia and foreigners in Estonia who are working. The questionnaire was administered from 23rd December 2021 until 23rd January 2022, which was conducted for one month and received 104 responses from various industries. Also, respondents were assured that all responses would remain anonymous and strictly used only in this research paper.

3.4 MEASURES

Data collection is core for any research, as it provides more insight for the researcher. For this study, a primary source of data collection was adopted, which implies using a well-structured questionnaire adopted as the research instrument.

This study adopted three different questionnaires- the first questionnaire measures cultural intelligence (CQ), the second questionnaire measures employee engagement and the third measures innovative work behaviour. Cultural Intelligence was measured using the Cultural Intelligence Scale (CQS) developed by Ang (2007), employee engagement, adopted a structured questionnaire from Schaufeli (2006), and innovative work behaviour of employees adopted a structured questionnaire by Kleysen & Street (2001). According to Fabbe-costes & Jahre (2008), measuring how useful a research model is, is dependent on the use of diverse industries. Details of the measures are explained below.

To test the reliability and validity, several studies (Ott & Michailova, 2018; Polák-Weldon, 2012; Afsar, 2020; Wang, 2020; Kistyanto, 2021) made use of Cronbach alpha. Therefore, this study adopted Cronbach's alpha to test the reliability of the questionnaires and the validity of the data obtained from this study. This will be explained according to each variable and instrument used. Table 5 below presents a summary view of the Cronbach Alpha (CA) score obtained in this study. (Table 4 in the appendix represents the summary of statistics of the independent, dependent and control variables.):

3.4.1 Cultural Intelligence (CQ).

Cultural Intelligence was measured using the Cultural Intelligence Scale (CQS) developed by Ang et al. (2007). It contains a 20-item scale with 7 points behavioural frequency scale of strongly disagree '1', Fairly disagree '2', Disagree '3', Neutral '4', Agree '5', Fairly agree '6', and Strongly agree '7'. It comprises the four dimensions of cultural intelligence: (a) Metacognitive CQ: contains six items, e.g. " I am conscious of the cultural knowledge I use when interacting

with people with different cultural backgrounds”. (b) Cognitive CQ: contains four items, e.g. “ I know other cultures' legal and economic systems”. (c.) Motivational CQ: contains five items, e.g. “ I enjoy interacting with people from different cultures”. (d.) Behavioural CQ: contains five items, e.g. “ I change my verbal behaviour (e.g., accent, tone) when a cross-cultural interaction requires it.”. As mentioned by Afsar (2020); Fang (2018); Ott & Michailova (2018), the most popular and widely accepted measure of CQ is the scale developed by Ang (2007), as the complexity of other CQ tools limited their acceptance and its usability (Thomas et al., 2015).

Testing the reliability and validity of CQS, the overall CQ score was calculated based on the number of items in each factor, which calculated the Cronbach alpha value. Table 5 below shows that the variable CQ is reliable with a Cronbach's alpha score of 0.70. According to Creswell (2002), Cronbach's alpha was ranked into levels of acceptability- a coefficient of 0.90 is ranked high, 0.70 is good, and 0.6 is ranked as a satisfactory acceptable level for determining a variable internal consistency. Also, to support the level of acceptability of this instrument, another researcher, Daud (2018), ranks Cronbach alpha values ranging from 0.60 to 0.80 are considered moderate and acceptable, while alpha scores within the ranges of 0.8-1.00 are considered very good and the best. On this note, the Cronbach alpha score of cultural intelligence's instrument is reliable at the level of moderate and acceptable (Daud et al., 2018) & good and internally consistent (Daud et al., 2018).

3.4.2 Employee Engagement & Innovative work behaviour.

The first dependent variable, employee engagement, adopted a structured questionnaire from Schaufeli (2006), which consists of 17 questions that measure how employees feel at work. It comprises six vigour items such as “ At my work, I feel bursting with energy”; 5 dedication items, e.g. “ My job inspires me.”; and six absorption items e.g. “ I can continue working for very long periods at a time”. A 6 point behavioural frequency scale was used: Never ‘0’, Always never ‘1’, Rarely ‘2’, Sometimes ‘3’, Often ‘4’, Very often ‘5’, and Always ‘6’ with a minimum value of 0 and a maximum value of 6.00.

Furthermore, this research assessed the innovative work behaviour of employees by adopting a structured questionnaire by Kleysen & Street (2001) comprising of 14 items that measure employees' innovative work behaviour at their organisation such as “I Pay attention to non-routine issues in your work, department, organisation or the marketplace”. These questions were also based on 6 points behavioural frequency scale of Never ‘1’, Almost never ‘2’, Sometimes ‘3’,

Fairly often ‘4’, Very often ‘5’, and Always ‘6’. With a minimum value of 1.00 and a maximum value of 6.00.

Table 5 below shows the dependent variables- employee engagement and innovative work behaviour altogether have a Cronbach score of 0.60. This implies that the reliability and internal consistency are satisfactory and moderately acceptable (Creswell, 2002; Daud, 2018).

In other words, the dependent and independent variables altogether had a Cronbach’s alpha score of 0.60 & 0.70, respectively. According to Creswell (2002) and Daud (2018), this implies that these variables' reliability and internal consistency are satisfactory and moderately acceptable. Hence, the instruments used in this study are satisfactory, reliable and of good validity.

Table 5 Cronbach’s Alpha Score

Variable	Cronbach’s Alpha
Dependent variable	0.60
Employee Engagement	
Innovative work behaviour	
Independent Variable	0.70
Metacognitive CQ	
Cognitive CQ	
Motivational CQ	
Behavioural CQ	

Prepared by author

4.0 RESULT & INTERPRETATION

This thesis used the IBM SPSS Statistics version 28.0 to explore the relationships between cultural intelligence (CQ), work engagement and innovative work behaviour and analyse the data collected from the questionnaire, in order to test the reliability of the research instrument- questionnaire. Regression analysis was used to analyse the data, focusing on the quantitative analysis part of the research. The research data were analysed in 3 steps. First, the descriptive statistics, reliability tests, and validity of the variables were checked to validate the robustness and sustainability of the questionnaire. Nonetheless, Table 4, which represents the summary of statistics of the independent, dependent and demographic variables, has been discussed above.

Secondly, the correlation (Pearson correlation) and collinearity of the variables were examined. Thirdly, the model was set up according to the research questions and analysed with regression to assess the relationship between cultural intelligence, employee engagement and innovative work behaviours.

Furthermore, Table 6 presents the means, standard deviation, and correlation matrix of the second section of the analysis. The result shows a positive and significant relationship between cultural intelligence as an overall variable and employee engagement and innovative work behaviour. Subsequently, assessing the relationship between individual elements of cultural intelligence, there is a positive significant relationship between each element of cultural intelligence, employee engagement and innovative work behaviour. This implies that significant positive correlations between the explanatory and the outcome variables were found, thereby providing preliminary support for the research questions. According to Cohen (1988), he classifies correlation value into 3 categories such as: small= 0.10 - 0.29, medium = 0.30 - 0.49 and high = 0.50- 1.00 cited in Daud (2018). The highest correlation was found between cultural intelligence (CQ), specifically motivational CQ and innovative work behaviour ($r= 0.35, p < 0.01$) and between the overall CQ and innovative work behaviour ($r=0.38, p < 0.01$). Therefore, the overall cultural intelligence correlation coefficient and specifically motivational CQ in interaction with innovative work behaviour is acceptable and ranked as a medium coefficient score. CQ dimensions are positively significant with innovative work behaviour.

Table 6: Pearson Correlation Summary

	Mean	SD	Gender	Meta CQ	Cog CQ	Mot CQ	Beh CQ	Overall CQ	EE	IWB
Gender	0.51	0.57	1							
Meta CQ	5.59	1.05	0.18	1						
Cog CQ	4.19	1.15	0.13	0.25**	1					
Mot CQ	5.61	1.11	0.06	0.40**	0.14	1				
Beh CQ	4.94	1.24	0.23*	0.51**	0.34**	0.40**	1			
Overall CQ	5.09	0.81	0.21*	0.75**	0.62**	0.68**	0.81**	1		
EE	4.18	1.04	-0.17	0.16	0.01	0.20**	0.24*	0.22*	1	
IWB	4.45	0.92	-0.1	0.23*	0.19*	0.35**	0.30**	0.38**	0.42**	1

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*** Correlation is significant at the 0.05 level (2-tailed), ** Correlation is significant at the 0.01 level (2-tailed).**

Note: SD= Standard Deviation, Meta CQ = Metacognitive Cultural Intelligence, Cog CQ = Cognitive Cultural Intelligence, Mot CQ= Motivational Cultural Intelligence, Beh CQ = Behavioural Cultural Intelligence, Overall CQ = Cultural Intelligence, EE = Employee Engagement, IWB = Innovative Work Behaviour.

4.1 RESEARCH QUESTIONS

To explore the research questions using the regression approach, the analysis explores how each cultural intelligence dimension directly relates with employee engagement and innovative work behaviour.

Research Question 1: how does cultural intelligence relate with employee engagement?

Considering each element of CQ from table 7, metacognitive CQ ($\beta = 0.21$, $p < 0.05$) which makes up model 1 and motivational CQ ($\beta = 0.20$, $p < 0.05$) which makes up model 3, are significant at a 95% level of confidence this implies that metacognitive and motivational CQ both have a positive and direct relationship with employee engagement. However, another equally important model, model 4, which is made up of behavioural CQ ($\beta = 0.25$, $p < 0.00$), is highly significant and directly relates to employee engagement. Also, when examining cultural intelligence holistically or overall, that is, by using the average of all elements that make up cultural intelligence, model 5 ($\beta = 0.34$, $p < 0.01$) indicates that CQ is highly significant and has a direct and positive relationship with employee engagement. However, model 2 shows that cognitive CQ did not significantly have a relationship with employee engagement even though it had a positive association.

Therefore, the results showed that a relationship exists between cultural intelligence and employee engagement in 2 ways:

Individual context: putting into context individual elements of CQ, it shows that metacognitive (an individual's knowledge/experience), motivational (an individual's interest), and behavioural CQ (an individual's ability) paired individually with employee engagement results in a positive, direct and highly significant relationship with engagement in the workplace.

Overall/ Holistic context: Considering cultural intelligence in a holistic manner, which refers to the average of all the dimensions of cultural intelligence into one subject known as overall CQ. The result shows it is positive and highly significant with employee engagement, which implies that an employee's knowledge/experience, conscious intellectual activity, interest and ability all relate with an employee's engagement at work. Table 7 below presents the regression results for the research question one.

Table 7: Regression & Model Summary

	Employee Engagement				
Variables	Model 1 (β)	Model 2 (β)	Model 3 (β)	Model 4 (β)	Model 5 (β)
Constant	3.22***	4.22***	3.25***	3.18***	2.65***
Gender	-0.39*	-0.33+	-0.34*	-0.44**	-0.42*
Meta CQ	0.21*				
Cog CQ		0.03			
Mot CQ			0.20*		
Beh CQ				0.25***	
CQ overall					0.34**
R^2	0.07	0.03	0.08	0.11	0.10
Adj. R^2	0.05	0.01	0.06	0.10	0.08
F	3.96*	1.68	4.11*	6.52***	5.60**

Prepared by the Author.

Notes: * $p < 0.05$, ** $p < 0.01$, * $p < 0.00$, + $p \leq 0.1$**

Where: Meta CQ = Metacognitive Cultural Intelligence, Cog CQ = Cognitive Cultural Intelligence, Mot CQ= Motivational Cultural Intelligence, Beh CQ = Behavioural Cultural Intelligence, Overall CQ = Cultural Intelligence.

From the results in Table 7 above, the overall cultural intelligence and all the dimensions of cultural intelligence excluding cognitive CQ had a significant positive relationship with employee engagement. This means that an employee's knowledge, experience, interest and ability lead to positive behaviours and attitudes in the workplace, which helps to improve an organisation's outcomes, goals and objectives

Research Question 2: How does cultural intelligence relate with employee innovative behaviour?

To determine the relationship between cultural intelligence and employee innovative work behaviour results from Table 8, it shows that the individual elements of CQ on innovative work behaviour, model 6, 8 and 9 which are made of metacognitive CQ ($\beta = 0.23$, $p < 0.01$), motivational CQ ($\beta = 0.30$, $p < 0.00$), and behavioural CQ ($\beta = 0.25$, $p < 0.00$) respectively had a significantly strong and positive relationship with innovative work behaviour. This implies an individual's metacognitive (an individual's knowledge/experience), motivational (an individual's interest) and behavioural CQ skills (an individual's ability) of employees in the workplace have a huge tendency of being innovative in the workplace.

In the same light, considering cultural intelligence in a holistic/ overall view, that is the average of all the dimensions of cultural intelligence, model 10 which represents the holistic view of cultural intelligence ($\beta = 0.47$, $p < 0.00$) in simple terms, the results showed that cultural intelligence as a whole had a positive and significant relationship with employee innovative work behaviour.

In other words, metacognitive (an individual's knowledge/ experience), cognitive (an individual's reasoning), motivational (an individual's interest), and behavioural CQ (an individual's ability) all have a relationship with innovative work behaviour, yielding to innovative activities, collaboration and communication in the workplace. Hence, cultural intelligence and innovative work behaviour are significant to an employee's interest and ability to partake in innovative activities. Table 8 below depicts the regression results for research question two.

Table 8: Regression & Model Summary

	Innovative Work Behaviour				
Variables	Model 6 (β)	Model 7 (β)	Model 8 (β)	Model 9 (β)	Model 10 (β)
Constant	3.30***	3.85***	2.88***	3.35***	2.21***
Gender	-0.23+	-0.20	-0.19	-0.28+	-0.30*
Meta CQ	0.23**				
Cog CQ		0.17*			
Mot CQ			0.30***		
Beh CQ				0.25***	
CQ overall					0.47***
R^2	0.07	0.05	0.14	0.12	0.18
Adj. R^2	0.05	0.03	0.12	0.10	0.16
F	4.01*	2.84+	8.10***	6.89***	10.81***

Prepared by the Author.

Notes: * $p < 0.05$, ** $p < 0.01$, * $p < 0.00$, + $p \leq 0.1$**

Where: Meta CQ = Metacognitive Cultural Intelligence, Cog CQ = Cognitive Cultural Intelligence, Mot CQ= Motivational Cultural Intelligence, Beh CQ = Behavioural Cultural Intelligence, Overall CQ = Cultural Intelligence.

From the results in Table 8 above, the overall cultural intelligence and all the dimensions of cultural intelligence have a positive relationship with employee innovative work behaviour. This means that an employee's knowledge, experience, interest, and ability lead to positive behaviours and attitudes in the workplace, which helps employees develop, carry and modify ideas to improve innovation in an organisation. Thereby adding to an organisation's capabilities for retaining competitive advantage and maintaining organisational sustainability.

5.0 DISCUSSION

The key purpose of this study is to analyse the relationship between cultural intelligence, employee engagement and employees' innovative work behaviour. Nowadays, organisations are becoming more diverse by having a diverse workforce as a team, where people with different cultures, ethnic, languages and norms interact to achieve organisational goals and objectives (Afsar et al., 2020). Therefore, cultural intelligence is crucial and of utmost interest in every organisation to enhance employee engagement and continuous innovation in the workplace. This study explored the significant role of cultural intelligence in shaping employees' work attitudes, such as employee engagement and their innovative or creative work behaviour in the workplace.

The first part of the discussion looks at the relationship between cultural intelligence and employee engagement. Findings from research question 1 show that 3 of the cultural intelligence dimensions, namely metacognitive, motivational and behavioural CQ are significant and directly related to employee engagement. Also, the author found that cultural intelligence in its holistic viewpoint is highly significant and has a positive relationship with employee engagement. Findings from this analysis show that it leads to employees having a positive attitude to their work and colleagues, improving their interpersonal and communication skills, thereby enhancing the achievement of organisational goals, and objectives and creating a friendly and productive work environment.

Previous results from the literature reveal that interactive learning helps enhance and develop cultural intelligence, which is associated with employees engaging colleagues in the workplace (Wang et al., 2020). Shaik (2021) also found that individual preferences may dynamically change from misalignment to alignment with improved levels of cultural intelligence among global virtual teams in the workplace and supported the fact that a relationship exists between cultural intelligence and employee engagement. However, in this case- trust was used as a mediating factor among virtual team members, which defines the new state of working, especially in this era where the pandemic- COVID'19 has changed the norm of working.

This study found that metacognitive CQ which refers to an individual's cultural knowledge, awareness and experience gained (Afsar et al., 2020), motivation CQ which is an individual's

interest to give attention to situations, culture and interacting with diverse people (Afsar et al., 2020), this comes from one's inner personality or will, and behavioural CQ which explains an individual's ability to take action when relating with people from different cultures (Ott & Michailova, 2018), have a positive influence on employee engagement. However, no relationship exists between cognitive CQ and employee engagement, meaning that no conscious intellectual activity solidifies one's knowledge of a subject matter with employee engagement. Few studies have supported the relationship that exists with other factors of CQ and employee engagement such as Polák-Weldon (2012) whereby the researcher found a strong connection between motivation factors of cultural intelligence such as speaking foreign languages and opportunities abroad and engagement but little to no relationship with cognitive CQ without including a mediating factor.

However, on the contrary, Min (2021) carried out a theoretical and practical experiment on 288 restaurant employees in Hawaii, United States, to examine the impact of cultural intelligence on employee engagement, burnout and job satisfaction. The result showed that motivational cultural intelligence predicted employee engagement and burnout, while cognitive cultural intelligence projected employee engagement. Which summaries that motivational and cognitive cultural intelligence indirectly impacted employee engagement. However, in this study, no significant relationship exists between employee engagement and cognitive CQ, but it supports the relationship between motivational CQ and employee engagement. Future studies should look into the effect or influence of cognitive CQ on employee engagement.

Here, the discussion is based on the relationship between cultural intelligence and employee innovative work behaviour. The results obtained showed a positive relationship between the dimensions of cultural intelligence, cultural intelligence and employees' innovative work behaviour. Though it has been stated that the innovative work behaviour of individual employees is still at an evolutionary stage (Jong & Den Hartog, 2010). However, results from this study show that cultural intelligence (CQ) has a positive relationship with innovative work behaviour. This is also supported by the research work carried out by Afsar et al(2020).

Lots of research papers dwelled on the theoretical viewpoint of cultural intelligence and its influence on multicultural experiences, such as Thomas (2015), who described the development and validation of measuring cultural intelligence and found that cultural

intelligence correlates with multicultural experience. Also, Polák-Weldon (2012) found a strong correlation between cultural intelligence as a key competency in this 21st century and innovative work behaviour of individuals, using students in Hungary as a case study. Li (2021) discussed the influence of individual cultural intelligence on sustainable innovation behaviour, emphasising knowledge sharing plays a fundamental role between cultural intelligence and innovative behaviour. However, no study to the author's knowledge has considered taking employees, whether nationals or migrant workers working in different industries, as one without segmenting them to understand better the link between cultural intelligence and innovative work behaviour.

According to Kistyanto (2021), individuals who took part in exchange programs or studied abroad have high cultural intelligence, positively affecting their innovative behaviour. This current study confirms that CQ plays a vital role in enhancing employees' innovative work behaviour, which is also supported by Wang et al.(2020). There are studies on the influence of cultural intelligence on employee behaviour, such as job satisfaction and job performance (Barakat, 2015; Min, 2021). However, research has a gap in understanding the effect of cultural intelligence on non-routine activities, such as being creative and innovative, which is termed innovative behaviour. Many studies have neglected the effect of employees who face cultural diversity or intelligence without necessarily being relocated to another setting (Afsar et al., 2020). This study has identified the importance of cultural intelligence as a resource to both organisations and individual employees. Furthermore, it supports the examination carried out by Afsar (2020) that employees who face cultural intelligence and diversity without not necessarily being relocated to another setting are also culturally intelligent.

This implies that employees with high cultural intelligence exhibit a higher degree of work engagement and innovative behaviour. These findings explain that cultural intelligence facilitates work engagement for employees in an open economy, and in turn, this engagement leads to increase innovative performance by employees. Hence, culturally intelligent individuals portray positive behaviour towards innovation and innovative activities, which reciprocates and increases the work engagement attained at the workplace. Therefore, cultural intelligence is indeed a fundamental phenomenon in the field of work.

5.1 IMPLICATIONS

5.1.1 Theoretical Implications

Based on the review of the findings, this current research adds to the quantitative and empirical framework of cultural intelligence to further explain the relationship that exists between cultural intelligence, employee engagement and employee innovative work behaviour. The study displays the dimensions of cultural intelligence with each variable-employee engagement and employee innovative work behaviour, which provided more context for understanding each dimension against each dependent variable.

These variables- employee engagement and innovative work behaviour of employees coupled with each dimension of cultural intelligence haven't fully been explored in the field of cultural intelligence. However, considering the role cultural intelligence and its dimensions play in innovative work behaviour and employee engagement, it is important to recognise their empirical and quantitative robustness. In other words, it articulates the relationship between cultural intelligence, its dimensions, employee engagement and employee innovative work behaviour via the quantitative and empirical framework.

In addition, this framework identifies the relationship between cultural intelligence and employee engagement, specifically highlighting the dimensions of cultural intelligence such as metacognitive, behavioural and motivational cultural intelligence with employee engagement. It also demonstrates cognitive cultural intelligence does not have a relationship with employee engagement. The framework implies that, cultural intelligence and all its dimensions are important factors when it comes to employee innovative work behaviour. The results of this study demonstrate the relationship between cultural intelligence, its dimensions, and employee engagement and innovation.

5.1.2 Practical Implications

For organisations to innovate in an open economy, management must consider cultural intelligence as an important element to foster innovative work behaviour and employee engagement among employees. Realistically, individuals with high cultural intelligence were not gotten in a day; therefore, cultural intelligence can be learnt, developed and improved upon. Thus, on an individual basis, employees should self educate themselves to deeply understand cultures and values, especially when they find themselves in an environment with people from a different culture. On the part of management, cultural intelligence should be

embedded as a strategy for the human resource or talent management division to foster employee's knowledge on this subject matter which will help address and keep check of the organisation's long term vision of being a global player as well as help to harmonise the interest of stakeholders in the organisation. On another note, individuals should act culturally intelligent based on knowledge of, interest in, and care for others' nationalities, cultures and values (Afsar et al., 2020). With this, it helps to focus on the local personnel of an organisation and not just expatriates or internationals present in the organisation. This training will help employees acquire knowledge about different cultures besides from their own, know how to communicate, be mindful of other peoples' cultures, and learn how to behave and perform in various situations. This training will help raise awareness and raise the cultural intelligence level among employees within the organisation.

Regardless of the relationship between cultural intelligence and innovative work behaviour, managers must first identify and clearly understand the factors that enhance cultural intelligence and remove the barriers to an innovative climate. Employees' engagement at work is very crucial in fostering cultural intelligence. Also, it encourages innovative behaviour in the workplace because without employees being consciously and actively involved in the processes and activities, the later- innovative work/ innovation is meaningless. Therefore, work engagement is crucial and relevant to an organisation; hence management must establish a way to create and sustain the level of energy and passion that employees bring to work. Employee engagement and innovative work behaviour displayed in an environment where employees can express their ideas, share their experiences, talk freely, get constructive feedback, get support from both colleagues and managers, share knowledge, and brainstorm on work problems with their superiors are more likely to portray a higher level of engagement and innovative behaviour in the workplace coupled with cultural intelligence attribute. Therefore, organisations should establish a fair and trustworthy work environment (Afsar et al., 2020) to have an effective and free flow of communication among employees and superiors.

5.2 LIMITATIONS AND FUTURE RECOMMENDATION

Before discussing future recommendations, this study has some limitations. Initially, the author reached out to two companies to participate in the survey. However, due to the slow responses and covid'19 restrictions, the author decided to reach out to more industries to

increase the sample size. Even though the sample size (104) meets the regression analysis requirement as stated by Hair (2019), the author would have wished the sample size were a bit larger. In addition, questionnaires were in the form of google forms, distributed via the google forms links and data were gathered using online resources, which restricted the calculation of response rate since the google forms link distributed accounted for respondents willing to fill the questionnaire. Therefore, future studies can reach a larger sample size to see if the same result would be obtained. Another limiting factor was time. The author believes this field would greatly benefit from longitudinal studies that allow a larger sample size. The language was another limitation faced by the researcher; since local personnel were one of the target samples for participating in the survey, some respondents preferred the questionnaire to be in the Estonian language as the survey was carried out in English. All these limitations experienced during the research lead to future recommendations: future research can look into other regions and have an Estonian version of the CQS (cultural intelligence scale) used during the survey, just like Neto (2021) reviewed a Portuguese version.

Findings from Jong & Den Hartog's (2010) research describe that innovative work behaviour is one dimensional. However, the researcher recommended that further research is merited in the other dimensions on innovative work behaviour as an evolutionary construct. Therefore, this thesis supports that further research should be carried out on cultural intelligence and other dimensions of innovative work behaviour to have more robust evidence of this evolutionary construct of innovation.

Also, while analysing results from the survey carried out, it was observed that results from cognitive CQ regarding employee engagement were not significant, which Shaik (2021) agreed with and suggested further exploration of these elements of CQ in the future.

Lastly, as the world is becoming a global and more digital place, different audiences must be captured by sharing on modern forums. Some cultures are still grappling with the basics of capitalism, commerce, trade, multiculturalism and even basic communication skills. Due to past events, some communities tend to see work as a means to an end activity devoid of any other meaning. Many of these cultural questions in this survey are crucial and require a psychological capacity to reflect. Therefore, more psychological variables should be paired with CQ in future research.

5.3 CONCLUSION

One primary competency required in today's diverse workplace is an employee's ability to understand cultural preferences, values, norms, beliefs, languages, culture and differences of other organisation members. In other words, for an organisation to succeed in this new era of globalisation coupled with digitalisation and uncertainty, organisations must make room for innovative work behaviour and encourage employees' contribution to the day to day affairs of the organisation. This study analysed the role of cultural intelligence on Estonia employees' engagement and innovative work behaviour, putting local and international personnel into context. The result shows that employees with cultural intelligence would engage more frequently in innovative work behaviours. Furthermore, cultural intelligence with respect to employee engagement will result from individual employees' interests, abilities and experiences. Hence, management must create and sustain an atmosphere that empowers employees in the workplace.

6.0 REFERENCES

- Afsar, B., Al-Ghazali, B. M., Cheema, S., & Javed, F. (2020). Cultural intelligence and innovative work behaviour: The role of work engagement and interpersonal trust. *European Journal of Innovation Management*, 24(4), 1082–1109. Scopus. <https://doi.org/10.1108/EJIM-01-2020-0008>
- Åmo, B. W. (2005). *Employee innovation behaviour*. (1st ed.). Bodo Graduate School of business.
- Ang, S., Van Dyne, L., Koh, C., 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*, 3(3), 335–371. <https://doi.org/10.1111/j.1740-8784.2007.00082.x>
- Azevedo, A., & Shane, M. J. (2019). A new training program in developing cultural intelligence can also improve innovative work behaviour and resilience: A longitudinal pilot study of graduate students and professional employees. *The International Journal of Management Education*, 17(3), 100303. <https://doi.org/10.1016/j.ijme.2019.05.004>
- Barakat, L. L., Lorenz, M. P., Ramsey, J. R., & Cretoiu, S. L. (2015). Global managers: An analysis of the impact of cultural intelligence on job satisfaction and performance. *International Journal of Emerging Markets*, 10(4), 781–800. <https://doi.org/10.1108/IJoEM-01-2014-0011>
- Brad, S. M., Rocco, T. S., & Alborno, C. A. (2011). Exploring employee engagement from the employee perspective: Implications for HRD. *Journal of European Industrial Training*, 35(4), 300–325. <https://doi.org/10.1108/03090591111128306>
- Christian, M., Garza, A., & Slaughter, J. (2011). Work Engagement: A Quantitative Review and Test of Its Relations with Task and Contextual Performance. *Personnel Psychology*, 64, 89–136. <https://doi.org/10.1111/j.1744-6570.2010.01203.x>
- Cohen, J.W. (1988), *Statistical power analysis for the behavioural sciences*, Ed. Second, Hillsdale, Lawrence Erlbaum Associates, New Jersey
- Creswell, J. (2002). *Educational Research: Planning, Conducting and Evaluating Quantitative and Qualitative Research*. Saddle River, NJ: Prentice-Hall
- Crowne, K. A. (2008). What leads to cultural intelligence? *Business Horizons*, 51(5), 391–399. <https://doi.org/10.1016/j.bushor.2008.03.010>
- Cultural intelligence. (2021). In *Wikipedia*. https://en.wikipedia.org/w/index.php?title=Cultural_intelligence&oldid=1051281118
- Daud, K. A. M., Khidzir, N. Z., Ismail, A. R., & Abdullah, F. A. (2018). *Validity and reliability of*

- instrument to measure social media skills among small and medium entrepreneurs at Pengkalan Datu River. 7(3), 12.*
- Earley, P. C. (2002). Redefining interactions across cultures and organizations: Moving forward with cultural intelligence. *Research in Organizational Behavior, 24*, 271–299. [https://doi.org/10.1016/S0191-3085\(02\)24008-3](https://doi.org/10.1016/S0191-3085(02)24008-3)
- Earley, P. C., & Ang, S. (2003). *Cultural Intelligence: Individual Interactions Across Cultures*. Stanford University Press.
- Earley, P. C., Ang, S., & Tan, J.-S. (2006). *CQ: Developing Cultural Intelligence at Work*. Stanford University Press.
- Fabbe-costes, N., & Jahre, M. (n.d.). *Centre de Recherche sur le Transport et la LOGistique*.
- Fan, P., Song, Y., Nepal, S., & Lee, H. (2020). Can Cultural Intelligence Affect Employee's Innovative Behavior? Evidence From Chinese Migrant Workers in South Korea. *Frontiers in Psychology, 11*, 559246. <https://doi.org/10.3389/fpsyg.2020.559246>
- Fang, F., Schei, V., & Selart, M. (2018). Hype or hope? A new look at the research on cultural intelligence. *International Journal of Intercultural Relations, 66*, 148–171. <https://doi.org/10.1016/j.ijintrel.2018.04.002>
- Gabel-Shemueli, R., Westman, M., Chen, S., & Bahamonde, D. (2019). Does cultural intelligence increase work engagement? The role of idiocentrism-allocentrism and organizational culture in MNCs. *Cross-Cultural and Strategic Management, 26(1)*, 46–66. Scopus. <https://doi.org/10.1108/CCSM-10-2017-0126>
- González-Romá, V., Schaufeli, W. B., Bakker, A. B., & Lloret, S. (2006). Burnout and work engagement: Independent factors or opposite poles? *Journal of Vocational Behavior, 68(1)*, 165–174. <https://doi.org/10.1016/j.jvb.2005.01.003>
- Hair, J. F. (2019). *Multivariate data analysis* (Eighth edition). Cengage.
- Hu, N., Wu, J., & Gu, J. (2019). Cultural intelligence and employees' creative performance: The moderating role of team conflict in inter-organizational teams. *Journal of Management & Organization, 25(1)*, 96–116. <https://doi.org/10.1017/jmo.2016.64>
- Issues Brief—Globalization: A Brief Overview*. (n.d.). Retrieved 3 December 2021, from <https://www.imf.org/external/np/exr/ib/2008/053008.htm>
- Janssen, O., van de Vliert, E., & West, M. (2004). The Bright and Dark Sides of Individual and Group Innovation: A Special Issue Introduction. *Journal of Organizational Behavior, 25(2)*, 129–145.
- Jong, J. P. J., & Den Hartog, D. (2010). Measuring Innovative Work Behavior. *Creativity and*

- Innovation Management*, 19. <https://doi.org/10.1111/j.1467-8691.2010.00547.x>
- Kang, J. H., Matusik, J. G., Kim, T.-Y., & Phillips, J. M. (2016). Interactive effects of multiple organizational climates on employee innovative behaviour in entrepreneurial firms: A cross-level investigation. *Journal of Business Venturing*, 31(6), 628–642. <https://doi.org/10.1016/j.jbusvent.2016.08.002>
- Katou, A. A., Budhwar, P. S., & Patel, C. (2021). A trilogy of organizational ambidexterity: Leader's social intelligence, employee work engagement and environmental changes. *Journal of Business Research*, 128, 688–700. <https://doi.org/10.1016/j.jbusres.2020.01.043>
- Kistyanto, A., Rahman, M. F. W., Adhar, W. F., & Setyawati, E. E. P. (2021). Cultural intelligence increase student's innovative behaviour in higher education: The mediating role of interpersonal trust. *International Journal of Educational Management*, ahead-of-print(ahead-of-print). <https://doi.org/10.1108/IJEM-11-2020-0510>
- Kleysen, R., & Street, C. (2001). Toward a Multi-Dimensional Measure of Individual Innovative Behaviour. *Journal of Intellectual Capital*, 2, 284–296. <https://doi.org/10.1108/EUM0000000005660>
- Knezović, E., & Drkić, A. (2020). Innovative work behaviour in SMEs: The role of transformational leadership. *Employee Relations: The International Journal*, 43(2), 398–415. <https://doi.org/10.1108/ER-03-2020-0124>
- Kwon, K., & Kim, T. (2020). An integrative literature review of employee engagement and innovative behaviour: Revisiting the JD-R model. *Human Resource Management Review*, 30(2), 100704. <https://doi.org/10.1016/j.hrmr.2019.100704>
- Li, M., & Hsu, C. H. C. (2016). A review of employee innovative behaviour in services. *International Journal of Contemporary Hospitality Management*, 28(12), 2820–2841. <https://doi.org/10.1108/IJCHM-04-2015-0214>
- Li, M. (2020). An examination of two major constructs of cross-cultural competence: Cultural intelligence and intercultural competence. *Personality and Individual Differences*, 164, 110105. <https://doi.org/10.1016/j.paid.2020.110105>
- Li, J., Wu, N., & Xiong, S. (2021). Sustainable innovation in the context of organizational cultural diversity: The role of cultural intelligence and knowledge sharing. *PLOS ONE*, 16(5), e0250878. <https://doi.org/10.1371/journal.pone.0250878>
- Mangla, N. (2021). Working in a pandemic and post-pandemic period – Cultural intelligence is the key. *International Journal of Cross-Cultural Management*, 21(1), 53–69. <https://doi.org/10.1177/14705958211002877>

- Memon, M., Ting, H., Hwa, C., Ramayah, T., Chuah, F., & Cham, T.-H. (2020). *Sample Size for Survey Research: Review and Recommendations*. 4, i–xx. [https://doi.org/10.47263/JASEM.4\(2\)01](https://doi.org/10.47263/JASEM.4(2)01)
- Min, H., Kim, H. J., & Agrusa, J. (2021). Serving Diverse Customers: The Impact of Cultural Intelligence on Employee Burnout, Engagement, and Job Satisfaction. *Journal of Hospitality and Tourism Research*. <https://doi.org/10.1177/10963480211016031>
- Miotti, G. (2019). *Cultural Intelligence and Globalization Perception: A potential duo?* ResearchGate.
- Neto, J., Neto, A., & Neto, F. (2021). Short-form measure of cultural intelligence: A Portuguese validation. *International Journal of Intercultural Relations*, 83, 139–150. <https://doi.org/10.1016/j.ijintrel.2021.06.005>
- Ng, K.-Y., Van Dyne, L., & Ang, S. (2012). Cultural intelligence: A review, reflections, and recommendations for future research. In A. M. Ryan, F. T. L. Leong, & F. L. Oswald (Eds.), *Conducting multinational research: Applying organisational psychology in the workplace*. (pp. 29–58). American Psychological Association. <https://doi.org/10.1037/13743-002>
- Ott, D. L., & Michailova, S. (2018). Cultural Intelligence: A Review and New Research Avenues. *International Journal of Management Reviews*, 20(1), 99–119. <https://doi.org/10.1111/ijmr.12118>
- Polák-Weldon, R., Balogh, Á., Bogdány, E., & Cizmadia, T. (n.d.). *The Challenges Of Globalization - The Changing Role Of Cultural Intelligence In The 21st Century*. 9.
- Schalk, R., & Linden, K. (2012). The influence of cultural intelligence of the supervisor and the cultural similarity between supervisor and employee on employee engagement. *Management Today*, 36–38.
- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The Measurement of Work Engagement With a Short Questionnaire: A Cross-National Study. *Educational and Psychological Measurement*, 66(4), 701–716. <https://doi.org/10.1177/0013164405282471>
- Shaik, F. F., Makhecha, U. P., & Gouda, S. K. (2021). Work and non-work identities in global virtual teams: Role of cultural intelligence in employee engagement. *International Journal of Manpower*, 42(1), 51–78. <https://doi.org/10.1108/IJM-03-2019-0118>
- Shuck, B., & Wollard, K. (2010). Employee Engagement and HRD: A Seminal Review of the Foundations. *Human Resource Development Review*, 9(1), 89–110. <https://doi.org/10.1177/1534484309353560>
- Soumitra, D., Bruno, L., Sacha, W.-V., Rivera, L., Lorena, & Organization, W. I. P. (n.d.). *Global*

innovation index. Unknown. <https://doi.org/10.34667/TIND.44315>

- Thomas, D. C., Elron, E., Stahl, G., Ekelund, B. Z., Ravlin, E. C., Cerdin, J.-L., Poelmans, S., Brislin, R., Pekerti, A., Aycan, Z., Maznevski, M., Au, K., & Lazarova, M. B. (2008). Cultural Intelligence: Domain and Assessment. *International Journal of Cross-Cultural Management*, 8(2), 123–143. <https://doi.org/10.1177/1470595808091787>
- Thomas, D., Liao, Y., Aycan, Z., Cerdin, J.-L., Pekerti, A., Ravlin, E., Stahl, G., Lazarova, M., Fock, H., Arli, D., Moeller, M., Okimoto, T., & Van de Vijver, F. (2015). Cultural Intelligence: A Theory-based, Short Form Measure. *Journal of International Business Studies*. <https://doi.org/10.1057/jibs.2014.67>
- Wang, K., Goh, M., Carducci, B., Nave, C., Mio, J., & Riggio, R. (2020). *Cultural Intelligence*. 269–273. <https://doi.org/10.1002/9781118970843.ch310>
- Wollard, K. K., & Shuck, B. (2011). Antecedents to Employee Engagement: A Structured Review of the Literature. *Advances in Developing Human Resources*, 13(4), 429–446. <https://doi.org/10.1177/1523422311431220>

7.0 APPENDIX

7.1 ACRONYMS

Beh CQ	Behavioural Cultural Intelligence
Cog CQ	Cognitive Cultural Intelligence
CQ	Cultural Intelligence
CQS	Cultural Intelligence Scale
EE	Employee Engagement
IWB	Innovative Work Behaviour
Max	Maximum value
Meta CQ	Metacognitive Cultural Intelligence
Mini	Minimum value
Mot CQ	Motivational Cultural Intelligence
SD	Standard Deviation
SFCQ	Short Form measure of Cultural Intelligence

7.2 QUESTIONNAIRE

Dear Sir/Madam,

I invite you to fill out my questionnaire designed to measure the “Influence of Cultural Intelligence on Employee Engagement and Employee Innovative Work Behaviour”. This project is undertaken in partial fulfilment of the requirement for the award of MA in Innovation and Technology Management at the School of Economics and Business Administration, University of Tartu.

Please kindly complete the questionnaire carefully as you can. All information supplied will be used for the purpose of this study and will be treated with the utmost confidentiality. You need not to give your name. Your cooperation will be highly appreciated.

Thank you

AYETIGBO Esther

Researcher

PART A: BIO DATA

- 1. Gender
 - a. Male b. Female c. prefer not to mention d. other
- 2. Age
 - a. 18 – 25 b. 26 – 35 c. 36 – 45 d. 46 – 55 e. 55 and above
- 3. Marital status
 - a. Married b. Single c. Divorced d. Prefer not to mention e. Other
- 4. Education
 - a. High school b. Bachelor’s degree c. Master’s degree d. PhD e. Other
- 5. Citizenship
- 6. Industry
 - a. Transportation b. Fin-tech c. Banking d. Other
- 7. Tenure with your organization
 - a. Up to one year b. 1-2years c. 3-5 years d. 6-10 years e. Above 10 years
- 8. Work experience
 - a. Up to one year b. 1-2years c. 3-5 years d. 6-10 years e. Above 10 years

PART B: The Cultural Intelligence Scale (CQS)

Read each statement and select the response that best describes your capabilities.

Select the answer that BEST describes you:

Strongly	Fairly	Disagree	Neutral	Agree	Fairly	
Strongly						
disagree	disagree			agree	agree	
1	2	3	4	5	6	7

Metacognitive CQ

- 1. I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds. 1 2 3 4 5 6 7
- 2. I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.
1 2 3 4 5 6 7
- 3. I am conscious of the cultural knowledge I apply to cross-cultural interactions.
1 2 3 4 5 6 7
- 4. I check the accuracy of my cultural knowledge as I interact with people from different cultures.

1 2 3 4 5 6 7

Cognitive CQ

5. I know the legal and economic systems of other cultures.

1 2 3 4 5 6 7

6. I know the rules (e.g., vocabulary, grammar) of other languages.

1 2 3 4 5 6 7

7. I know the cultural values and religious beliefs of other cultures.

1 2 3 4 5 6 7

8. I know the marriage systems of other cultures. 1 2 3 4 5 6 7

9. I know the arts and crafts of other cultures. 1 2 3 4 5 6 7

10. I know the rules for expressing nonverbal behaviours in other cultures.

1 2 3 4 5 6 7

Motivational CQ

11. I enjoy interacting with people from different cultures.

1 2 3 4 5 6 7

12. I am confident that I can socialise with locals in a culture that is unfamiliar to me.

1 2 3 4 5 6 7

13. I am sure I can deal with the stresses of adjusting to a culture that is new to me.

1 2 3 4 5 6 7

14. I enjoy living in cultures that are unfamiliar to me. 1 2 3 4 5 6 7

15. I am confident that I can get accustomed to the shopping conditions in a different culture.

1 2 3 4 5 6 7

Behavioral CQ

16. I change my verbal behaviour (e.g., accent, tone) when a cross-cultural interaction requires it.

1 2 3 4 5 6 7

17. I use pause and silence differently to suit different cross-cultural situations.

1 2 3 4 5 6 7

18. I vary the rate of my speaking when a cross-cultural situation requires it.

1 2 3 4 5 6 7

19. I change my nonverbal behaviour when a cross-cultural situation requires it.

1 2 3 4 5 6 7

20. I alter my facial expressions when a cross-cultural interaction requires it.

1 2 3 4 5 6 7

PART C: Employee Engagement

The following 17 statements are about how you feel at work. Please read each statement carefully and select the most appropriate response that describes you. Kindly answer based on the 6 point behavioural frequency scale of :

Never	Almost Never	Rarely	Sometimes	Often	Very Often
Always					
0	1	2	3	4	5
6					
Never	A few times	Once a month	A few times	Once a week	A few times
Every day	a year or less	or less	a month		a week

1. At my work, I feel bursting with energy. 1 2 3 4 5 6

2. I find the work that I do full of meaning and purpose. 1 2 3 4 5 6

3. Time flies when I am working. 1 2 3 4 5 6

4. At my job, I feel strong and vigorous. 1 2 3 4 5 6

5. I am enthusiastic about my job. 1 2 3 4 5 6
6. When I am working, I forget everything else around me. 1 2 3 4 5 6
7. My job inspires me. 1 2 3 4 5 6
8. When I get up in the morning, I feel like going to work. 1 2 3 4 5 6
9. I feel happy when I am working intensely. 1 2 3 4 5 6
10. I am proud of the work that I do. 1 2 3 4 5 6
11. I am immersed in my work. 1 2 3 4 5 6
12. I can continue working for very long periods at a time. 1 2 3 4 5 6
13. To me, my job is challenging. 1 2 3 4 5 6
14. I get carried away when I am working. 1 2 3 4 5 6
15. At my job, I am very resilient, mentally. 1 2 3 4 5 6
16. It is difficult to detach myself from my job. 1 2 3 4 5 6
17. At my work, I always persevere, even when things do not go well. 1 2 3 4 5 6

PART D

Employee Innovative Work Behaviour

The following 14 statements measures an employee's innovative work behaviour. Kindly answer based on the 6 point behavioural frequency scale of:

Never	Almost Never	Sometimes	Fairly Often	Very Often
Always				
1	2	3	4	5
				6

In your current job, how often do you:

1. Look for opportunities to improve an existing process, technology, product, service or work relationship?

1 2 3 4 5 6

2. Recognize opportunities to make a positive difference in your work, department, organization, or with customers?

1 2 3 4 5 6

3. Pay attention to non-routine issues in your work, department, organization or the market place?

1 2 3 4 5 6

4. Generate ideas or solutions to address problems?

1 2 3 4 5 6

5. Define problems more broadly in order to gain greater insight into them?

1 2 3 4 5 6

6. Experiment with new ideas and solutions?

1 2 3 4 5 6

7. Test-out ideas or solutions to address unmet needs?

1 2 3 4 5 6

8. Evaluate the strengths and weaknesses of new ideas?

1 2 3 4 5 6

9. Try to persuade others of the importance of a new idea or solution?

1 2 3 4 5 6

10. Push ideas forward so that they have a chance to become implemented?

1 2 3 4 5 6

11. Take the risk to support new ideas?

1 2 3 4 5 6

12. Implement changes that seem to be beneficial?

1 2 3 4 5 6

13. Work the bugs out of new approaches when applying them to an existing process, technology, product or service?

1 2 3 4 5 6

14. Incorporate new ideas for improving an existing process, technology, product or service into daily routines?

1 2 3 4 5 6

7.3 SUMMARY OF STATISTICS

Table 4: Summary of Statistics

Variables	Mean	Std. Dev	Min	Max
Dependent variables				
Employee Engagement	4.18	1.04	0.52	6.00
Innovative work behaviour	4.44	0.91	1.00	6.00
Independent Variables				
Metacognitive CQ	5.59	1.04	1.50	7.00
Cognitive CQ	4.19	1.15	1.00	7.00
Motivational CQ	5.60	1.11	2.40	7.00

Behavioural CQ	4.94	1.24	1.60	7.00
Gender	Frequency	Percentage %		
Male	54	51.9		
Female	48	46.2		
Prefer not to mention	1	1.0		
Other	1	1.0		
Age				
18-25 yrs	21	20.2		
26-35 yrs	63	60.6		
36-45 yrs	16	15.4		
46-55 yrs	3	2.9		
56 and above	1	1.0		
Marital Status				
Single	59	56.7		
Married	27	26.0		
Divorced	2	1.9		
Prefer not to mention	8	7.7		
Other	1	1.0		

Civil partnership	2	1.9	
With a partner	1	1.0	
Complicated	2	1.9	
In a relationship	1	1.0	
Cohabiting	1	1.0	
Education			
High school	7	6.7	
Vocational degree	1	1.0	
HND	1	1.0	
Bachelors	38	36.5	
Masters	46	44.2	
PhD	10	9.6	
Other	1	1.0	
Citizenship			
Estonian	23	22.1	
Nigerian	36	34.6	
British	3	2.9	
Kazakhstan	1	1.0	
Chinese	2	1.9	
Mexican	1	1.0	
Hungarian	1	1.0	

Iran	2	1.9	
Georgian	2	1.9	
Azerbaijan	3	2.9	
Indonesia	1	1.0	
Cameroon	2	1.9	
Thai	1	1.0	
Liberian	1	1.0	
Belarus	2	1.9	
Russian	3	2.9	
Ukraine	2	1.9	
Indian	1	1.0	
Pakistani	3	2.9	
Mauritius	1	1.0	
Polish	1	1.0	
Latvian	1	1.0	
Romanian	1	1.0	
German	2	1.9	
South Korea	1	1.0	
USA	2	1.9	
Portuguese	1	1.0	
Zimbabwe	2	1.9	
Australia	1	1.0	
Turkish	1	1.0	

Industry			
Transportation	10	9.6	
FinTech	25	24.0	
Agriculture	1	1.0	
Banking	2	1.9	
Architecture	1	1.0	
Creatives	1	1.0	
Design	1	1.0	
Digital marketing	1	1.0	
E-commerce	1	1.0	
Education	23	22.1	
Electronics	1	1.0	
Engineering	1	1.0	
Government	1	1.0	
Graphics design	1	1.0	
Health care	4	3.8	
ICT	1	1.0	
Information Technology	8	7.7	
Indoor gardens	1	1.0	
Law	1	1.0	
Consultant	1	1.0	

POD Platform	1	1.0	
Production	2	1.9	
Marketing	1	1.0	
Real estate	2	1.9	
Sales	1	1.0	
Technology	4	3.8	
Science and technology	1	1.0	
Service provider	1	1.0	
Telecommunications	2	1.9	
Other	2	1.9	
Tenure with current Organisation			
Up to one year	41	39.4	
1-2 yrs	28	26.9	
3-5 yrs	18	17.3	
6-10 yrs	9	8.7	
Above 10 yrs	7	6.7	
Work Experience			

Up to one yr	9	8.7	
1-2 yrs	19	18.3	
3-5 yrs	28	26.9	
6-10 yrs	25	24.0	
Above 10 yrs	23	22.1	

KULTUURILISE INTELLIGENTSUSE, TÖÖTAJATE KAASAMISE NING TÖÖTAJATE INNOVATIIVSE TÖÖKÄITUMISE SEOSED

Seoses globaliseerumise kiire kasvuga ning kaasatuse ja mitmekesisuse rakendamisel tänapäeva töökohtades on kultuurilisel intelligentsusel keskne roll organisatsiooni tõhususe, konkurentsieelise ja töötajate sotsiaalse heaolu suurendamisel. Enamik teadlasi on keskendunud välismaalastele (Crowne, 2008) ja võõrtöölistele (Fan et al., 2020). Aga, see uurimistöö tegeleb vajadusega mõista paremini seoseid kultuurilise intelligentsuse, töötajate kaasatuse ning töötajate innovatiivse töökäitumise vahel, keskendudes enim töökoha kohalikule ja rahvusvahelisele personalile Eesti keskkonnas, eriti aga sellel teadmatuse perioodil.

Lisaks on Eesti Globaalse Innovatsiooniindeksi (2021) järgi maailmas innovatiivsusest 21. kohal ning Euroopa riikide seas (Soumitra et al., 2021) 13. kohal. Seda silmas pidades, tegeleb see uurimistöö ka seostega kultuurilise intelligentsuse, töötajate kaastatuse ning töötajate innovatiivse töökäitumise vahel nii Eestis töötavate kohalike kui võõrtööjõu seas, sest sellist uurimust pole Eestis varem läbi viidud, kuigi Eestit tuntakse innovatiivse riigina. Seega on see intelligentsuse, eriti kultuurilise intelligentsuse kohta käiv töö uudne ning integreerib intelligentsuse innovatsiooniga.

Vastavalt uurimuses kasutatud metodoloogiale kasutati küsitluse läbiviimiseks riskküsitlust ning kvantitatiivset uurimismeetodist. Andmed sisaldavad 104 kohalikku ning rahvusvahelist töötajat, kes on valimisse võetud erinevatest Eesti tööstusharudest. Pearsoni korrelatsiooni- ja regressioonianalüüs hindas seoseid kultuurilise intelligentsuse, töötajate kaasatuse ning töötajate innovatiivse töökäitumise vahel.

Uurimisküsimus 1: ***kuidas on kultuuriline intelligentsus ja töötaja kaasatus omavahel seotud?***

Tulemused näitavad, et üldisel kultuurilisel intelligentsusel ning kõigil kultuurilise intelligentsuse mõõtmel, välja arvatud kognitiivne CQ on märkimisväärne positiivne seos töötajate kaasatusega. See viitab, et töötaja teadmised, kogemus, huvi ja võimed viivad töökohal positiivse käitumise ning suhtumiseni, mis aitab edendada organisatsiooni tulemusi, eesmärgi ja objektive.

Uurimisküsimus 2: ***Milline on kultuurilise intelligentsuse seos töötaja innovatiivse käitumisega?***

Saadud tulemused näitavad, et üldisel kultuurilisel intelligentsusel ja kõigil kultuurilise intelligentsuse dimensioonidel on positiivne seos töötajate innovatiivse töökäitumisega. See viitab, et töötaja teadmised, kogemused, huvi ja võimed viivad töökohal positiivse käitumise ning suhtumiseni, mis aitab töötajal organisatsioonis innovatsiooni arendada, edasi viia ning modifitseerida. Sellega lisatakse organisatsioonile võimekust konkurentsieelise säilitamiseks ning ettevõttesisese jätkusuutlikkuse tagamiseks.

Kokkuvõtteks võib öelda, et tänapäeva töötaja jaoks mitmekülgnes töökohas vajalik esmane kompetents on võime mõista kultuurilisi erinevusi, väärtusi, norme, uskumusi, keeli, kultuuri ja erinevusi teiste töötajatega. Edukaks toimimiseks tänapäeval digitaliseerimise ja teadmatusena põimunud globaliseerumise ajastul, peavad organisatsioonid tegema ruumi innovatiivsele töökäitumisele ning julgustama töötajaid organisatsiooni igapäevatoimetustesse oma panust andma. Seega peab juhatus looma ning tallel hoidma atmosfääri, mis töötajat töökohal võimendab.

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