

# Remote Employee Engagement and Organizational Leadership Culture, Measured By EENDEED, a Validated Instrument

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## Abstract

With the current post-pandemic unpredictable work environment characterized by remote and hybrid work, the leadership culture of an organization is important in fostering a desirable working environment. Such a culture of leadership is modeled by leaders of the organization and instilled in new leaders, as leadership helps motivate, inspire, and engage employees.

The purpose of this study was to analyze if the four types of leadership culture (mentoring, risk-taking, result-oriented, and coordinating) as determined by the Organizational Culture Assessment Instrument (OCAI) have a direct influence on the level of engagement of employees.

To analyze the influence of organizational leadership culture on remote employee engagement, this study implemented a quantitative non-experimental correlational design. Remote employee engagement was measured using a validated instrument called EENDEED (Enhanced Engagement Nurtured by Determination, Efficacy, and Exchange Dimensions). Data were collected through an online survey from 325 participants, all remote workers in organizations within the United States and a multiple regression analysis was conducted.

The findings of this study confirmed that there was a statistically significant relationship between an organization's leadership culture and its employees' level of engagement. In other words, the organization leadership culture as defined by OCAI contributes to employee engagement. Mentoring was shown to be the highest contributor in employee engagement. In other words, a mentoring-based leadership culture produced more engaged employees. While risk-taking and coordinating produced a statistically significant positive contribution to employee engagement, a result-oriented culture was not significant in contributing to employee engagement.

**Keywords:** employee engagement, leadership culture, remote workers, Post COVID-19 pandemic

## 1. Introduction

Leadership has a critical role in fostering a culture of employee engagement. Irrespective of the leadership style, leadership is an essential ingredient in the formula for successful and effective employee engagement and followership. Leadership drives the level of employee engagement that can formulate, instill, and maintain a culture of organizational achievement (Popli & Rizvi, 2016).

Effective leadership has become even more critical in these unprecedented and stressful times. The COVID-19 pandemic has become the harbinger for an unpredictable work environment characterized by perpetual change and renewal calling upon leadership to be even more diligent to foster daily positive, stable environments that can inspire, strengthen, empower and connect to their employees more than ever (Ireland & Hitt, 1999; Mendes & Stander, 2011).

With leadership facing the uncertainty and challenges borne of the recent COVID-19 pandemic, good, dependable, and solid leadership can provide a much-needed competitive advantage. An advantage that solidifies the footing of their followers so that they can be instrumental in furnishing that much needed competitive advantage in winning the marketplace today and in the workplace of tomorrow. It goes without question that leaders are responsible for making sure that the conditions exist that enable employees to thrive. This entails an

acknowledgment at all levels of the leadership hierarchy from the first-line supervisor to the most senior executive positions occupiers. Arguably, effective engagement of the employee and/or followership is the undoubted sole and unchallenged quest for leadership.

While leadership is important, the culture that leadership develops, maintains, and resides within warrants continued investigation, understanding, and oversight. As remote work becomes more common, it is important to understand how organizations can foster effective leadership and engagement in a remote context. Overall, further research in this area could provide valuable insights into how organizations can best support remote employee engagement through leadership culture. Culture may be embraced and understood as that in which leadership resides and obtains its swagger, personality, and wherewithal.

This investigation sheds light on the much-needed point of knowledge borne from the growth of remote work and the changing face of employee engagement during the pandemic. This study provides a comprehensive and up-to-date overview of the current state of knowledge on the topic, including both empirical research and theoretical frameworks. Overall, it positions existing literature on remote employee, employee engagement, and leadership; identifies areas where more research is needed; and provides a foundation for further research on the influence of organizational leadership culture on remote employee engagement.

## **2. Literature Review**

### *2.1 Remote Employees*

As employee workplaces have migrated to the cloud, leader-worker relationships, team consistency, self-awareness, communications, work-life balance, and productivity have undergone significant shifts in terms of function and efficacy. On the plus side, remote workers devote more hours while enjoying greater contentment with their workplace flexibility (Felstead & Henseke, 2017), improved health and wellbeing factors (Mache et al., 2020), and higher levels of job commitment (Kazekami, 2020).

In contrast, virtual worker performance is more reliant on clear leadership (Whiteside & Dixon, 2022). Remote workers must manage diminished social connections and increased isolation (Vander Elst et al., 2017), a blurred line between personal and work lives (Eddleston & Mulki, 2017), and loss of collaborative team engagement (de Klerk et al., 2021). Bui et al. (2019) revealed that expanded interaction among workers enhanced increased communications resulting in better performance. Shockley et al. (2021) noted that both quantity and quality of communication affected remote worker performance.

Effective communication by leaders directly affects performance and satisfaction of virtual workers. Remote worker performance was shown to improve when leaders established expectations related to communications (Shockley et al., 2021). Relational communication, which consists of communications associated with relationship building and maintenance, was challenged or compromised in the shift from onsite to virtual work environments during the pandemic in 2020-2021, resulting in workers' increased feelings of isolation and a more fragile sense of social connection with their employer (Jämsen et al., 2022).

Regarding the issues for virtual workers, while they are able to reject various distractions to deeply concentrate on their work, the challenges of technostress and loneliness have been shown to compromise employee work efficacy (Taser et al., 2022). During the pandemic, the mental health of remote workers was found to be more robust than that of non-remote employees (Kitagawa et al., 2021); mental health and wellbeing of remote employees improved as communications and technology set-ups were advanced and home-based work environments stabilized.

Remote workplaces positively influence employee well-being as well as employee engagement (Weideman & Hofmeyr, 2020). Engaging in decisions, social support, and task autonomy predicts remote worker well-being, even among experienced virtual workers (Vander Elst et al., 2017). Workers have applied self-efficacy and self-empowerment to gain and maintain control over their career achievement in the remote workplace (Yarberry & Sims, 2021). Additionally, responsive management increases both well-being and intent to stay among healthcare workers (Gilles et al., 2021).

Team members with at least some previous remote work experience more readily acknowledged the work-life balance benefits of mandated working from home during the pandemic (Donati et al., 2021) and experienced fewer difficulties adapting to the virtual environment (Oleniuch, 2021). Mandatorily remote workplaces, however, must ensure employees have access to technological resources and management support to effectively balance the demands of career and family (Franken et al., 2021; Rathnaweera & Jayathilaka, 2021).

Organizational support has been proven to favorably influence work-life balance and well-being while minimizing burnout (Kumpikaitė-Valiūnienė et al., 2021). In contrast, working solely from home has blurred the

defining line between work and family, resulting in work spillover into home life and increased conflict (Eddleston & Mulki, 2017; Gillet et al., 2021). For example, Lange and Kayser (2022) found that allowing workers to choose virtual workplaces increased their self-efficacy which then helped them balance stress levels in a virtual environment. Although collaborative behaviors drive employee engagement, remote workers' mental well-being suffers from virtual collaboration in the form of compromised work-life balance (Subel et al., 2022).

Drivers of job satisfaction among virtual employees include belongingness, effective communication, connectedness to organizational culture, and feeling valued (Kocot et al., 2021). Remote workers are less likely than in-office employees to leave their employer for higher remuneration based on elevated enthusiasm and more steadfast organizational commitment (Felstead & Henseke, 2017). Further, the benefits of working from home manifest as job satisfaction corollary with positive task focus (Felstead & Henseke, 2017) and perceived flexibility (Grzelczak, 2021).

Kazekami (2020) found virtual workers were more productive in that they tended to shed trivial tasks in favor of more substantial duties completed over longer hours. Empowering workers to choose a remote, in-office, or a hybrid work arrangement correlated with perceptions of less demanding work and, in the longer term, greater collaboration (Mache et al., 2020). Rana et al. (2019) determined that engagement favorably influenced job performance, resulting in greater organizational commitment among employees.

## 2.2 Employee Engagement

Employee engagement is critical to organizational success in terms of productivity (Surma et al., 2021), meaningfulness (May et al., 2004; Shaik & Makhecha, 2019), self-efficacy (Ojo et al., 2021), commitment to employer (Weideman & Hofmeyr, 2020), communication (Jämsen et al., 2022; Verčič & Vokić, 2017), and optimistic attitude (Chanana & Sangeeta, 2020; Kahn, 1990).

Employers often carry the burden of communicating clearly and in relevant formats to improve employee engagement. Verčič and Vokić (2017) confirmed that employee satisfaction with internal communication favorably influenced employee engagement. Evidence of supervisory compassion in the form of awareness, kindness, and mindfulness expanded engagement in the form of task performance in stressful environs (Muzee et al., 2021) and promoted positive engagement behaviors such as organizational citizenship and knowledge sharing (Eldor, 2018).

Virtual employee engagement improves with the application of virtual interaction opportunities and self-care best practices sharing (Anand & Acharya, 2021). Remote engagement activities foray into the areas of virtual learning, online team building, alignment sessions, and new communications strategies (Chanana & Sangeeta, 2020). Engagement includes the motivation, dedication, and enthusiasm of employees (Ha et al., 2021) as well as a state of career satisfaction (John & Raj, 2020). Engaged workers are energized to pursue task completion which benefits their employers (Hasan et al., 2022).

Employees' resilience in the form of quality time with family and corporate support for appropriate remote work environment correlates with their work engagement (Ojo et al., 2021). Wontorczyk and Rożnowski (2022) found that influence on work role and minimal friction with coworkers and management correlated with greater work engagement. However, virtual work environments correlated with feelings of isolation, work-life balance issues, and challenged communication with management (Rapisarda et al., 2021).

Successful employee engagement relates to numerous benefits. Eldor (2018) determined that compassion affected employees' work engagement as well as employee organizational citizenship behavior, thus reducing stressors that drove attrition. Findings of a study by Judeh (2021) revealed a correlation between work environment, ethical decision making, and employee engagement. Hasan et al. (2022) determined that meaningful work and work engagement influenced work performance.

Employee engagement is an established predictor of organizational commitment and reduced employee attrition (Chanana & Sangeeta, 2020). Engaged employees tend to be more satisfied, healthier (mentally and physically), productive, creative, and proactive, which benefits their employer. These benefits are enhanced by the job autonomy that typically accompanies remote roles (Boskovic, 2021).

For employees concerned about pandemic-based job security, strongly identifying with their organization correlated with their intent to stay (Chen & Chen, 2021). When human resource teams proactively engage remote workers individually to increase their individual perceptions of self-efficacy, employees adopt the mantle that successfully working remote is the result of their deliberate commitment to the firm (Marino & Capone, 2021).

## 2.3 Leadership

Although leadership as a construct has been overly studied, the construct of remote employee engagement has not experienced a like investigation history. Further, the investigation of the relationship between leadership and remote employee engagement as a research topic has been barely scratched given the significance of both constructs in the workplace today. Admittedly, the opportunity is so large that it tends to halt one in their tracks when considering the prospect. Certainly, the introduction of management culture as a construct stretches one's imagination and the opportunity to add value to this emerging study area accentuated by leadership and the engagement of the remote worker. That said, the following defines leadership as a construct, followed by a discussion of leadership as it marines within management culture, and finally, how it interacts with the remote employee body as a whole.

### 2.3.1 Leadership as a Construct

Leadership is a behavior and has many faces, e.g., autocratic, democratic, transactional, transformational, laissez-faire, servant, strategic, situational. Leadership also has many definitions.

Ireland and Hitt (1999) argued that leaders are the competitive advantage for organizations. Understandably, leadership and leaders themselves reign as the most credible differentiator for organizations in the marketplace.

### 2.3.2 Leadership as it Exists within Management Culture

Arguably, leadership cannot exist and/or thrive without a devoted followership. Follower traits and cultural values positively impact leader behaviors (Matthews et al., 2021).

### 2.3.3 How Leadership Interacts with the Remote Employee Body

According to Schaufeli (2015), leaders influence employee engagement greatly resulting in organizational uniqueness and success.

## 2.4 Employee Engagement through Organizational Culture

Multiple recent studies have found positive outcomes of employee engagement (Rakatu et al., 2022; Rich et al., 2019; Tate, 2015; Tate et al., 2021; Tate et al., 2019) in business. Employee engagement can contribute to profitable financial gains for an organization, yet employees working in a contradictory culture can pose some challenges and disengage employees, that in turn, impacts the organization's overall success. So what does organizational culture really mean in relations to employee engagement? Organizational culture can be referred to as corporate culture, workplace culture or company culture. Workplace culture can be a singular or compilation of values, principles, and beliefs individuals share or can relate to within a company. Bhandari et al. (2022) refers corporate or organizational culture to "shared values, beliefs, and standards that characterize members of a company" (p.1). Chheng et al. (2016) explains culture as "systems of values, beliefs, and behaviors that shape how actual work gets done" (pg. 3). In other words, culture is simply "the way we work here" (p. 3). Further, culture and engagement are critical business drivers in an organization's performance, hiring, retention and innovation.

Organizations that proactively manage their company culture usually have 30% higher innovation levels, 40% higher retention levels, and revenue growth over a 10-year period averaging 516% higher than those companies that do not manage their culture (Chheng et al., 2016). Executives must create an engaging and open environment for employees to convert their individual knowledge into valuable resources for the company to close performance gaps and help the company thrive (Sayyadi, 2022). Albeit, the way work is done within an organization can either yield a positive impact or a long road to travel many learned lessons. It is critical, according to Chheng et al. (2016) to understand and actively manage the mechanisms of both culture and engagement, and how those mechanisms mold the road to achieving organizational strategy. Therefore, since remote work has become more prevalent globally, gaining a profound understanding of cultural values, shared beliefs, and other organizational determinants for engagement can be a key factor that managers should consider while influencing employee engagement.

## 2.5 Leading a Remote Employee Culture

Culture influences employee attitudes and behavior as they are guided by its values, norms and assumptions (Gregory et al., 2009; Nayak & Barik, 2013). As the COVID-19 pandemic continues to evolve into an endemic, some workforce communities may seemingly be adjusting and progressing in their new culture of remote work. The way work was conducted and managed pre-pandemic could have been taken for granted while adapting to the post-pandemic hybrid work era potentially sheds light on a new way of work. In fact, to achieve sustainable competitiveness globally, Sayyadi (2022) pointed out collaboration, trust and learning as three dimensions of organizational culture that management executives must evaluate because they are vital to the organizational

knowledge cycle effectiveness.

Organizational effectiveness can be viewed as an outcome of employee engagement and a culture of encouraging knowledge, innovation, creativity, productivity, and learning. To lead organizational culture effectively, leadership should understand their organizational climate. Further, according to Sayyadi (2022), executive leadership need to accurately measure organizational culture to effectively lead the culture within the company (p. 25). Therefore, supportive leadership and an established culture must exist within an organization (Dula & Tang, 2021) to engage, motivate, inspire, and sustain the continuity of productive work in a remote environment. A leader can be a manager; however, a manager is not necessarily a leader (Kotter, 1990). In 2020, Harter reported for Gallup that managerial, or leadership positions were the largest decline in employee engagement. Among these, the declivity for managers were greatest compared to individual contributors and executive leaders in the four percent point declination in engagement (Harter, 2020).

Generally, organizations consider their employees as a key asset since employee performance is the primary determinant of the organization's success (Hadi & Ahmed, 2018; Tate, 2015; Waheed et al., 2017). Various management practices can be an influential vessel that guide the flow of an organization's culture. Among these practices, developing relationships can be a key component. The core relationship a manager has with their employees can play a critical part in an employee's engagement within the organization. Management has influence that can inspire, empower, ignite motivation, and cultivate feedback to engage remote employees in their work.

## *2.6 Leading Remote Employees*

Since the COVID-19 pandemic has evolved into an endemic, some organizations' movement towards the virtual culture of managing teams within some organizations has also evolved or been fully adopted. The pandemic impacted all business sectors and industries in some form, which open the doors for compassion among the business communities. This means, the evolution of remote work shifted the way employees are **led** has changed in those organizations that were significantly impacted which compelled leadership to step back and view their overall organization from a different set of lenses.

### *2.6.1 What is E-Leadership and Its Purpose?*

Leadership of teams within organizations can be considered vital as they are responsible for the most valuable business asset, its employees and relationships. As organizations evolved, according to Tate et al. (2019) the way business is conducted has revolutionized through technology.

E-Leadership was molded in response to the global economy transitioning to an IT-mediated interaction environment influences human interactions where organizational leaders can lead projects remotely (Avolio et al., 2000). The term E-leadership is defined "as a social influence process mediated by Advance Information Technology (AIT) to produce a change in attitudes, feelings, thinking, behavior, and/or performance with individuals, groups, and/or organizations" (Avolio et al., 2000, p. 617).

A virtual team (VT) is a group of geographically displaced people, who may belong to the same organization or to different companies, cooperating to achieve common goals by using technologies to support work, communication, and coordination (Metallo et al., 2007).

## *2.7 Leading Remote Worker Challenges*

Working remotely can be a lagniappe for employees and competitive with cost perks for employers. Leading remote employees can play a critical role within an organizational culture. According to Fister Gale (2015), "a manager's ability to lead can be tested in the remote work setting and will usually discover how effective and connected the employees are" (p. 32). To lead remote employees, there are a combination of nested unique challenges that interplay in remote work environments, including leadership styles, distractions, social isolation, silos, lack of information access, unclear expectations, lack of communication, technology issues, culture, language barriers, geography, low productivity, lack of team cohesiveness, lack of trust, and face-to-face supervision, that can significantly impact employee engagement, productivity, and overall organizational culture.

Studies have established that leaders can make a captious difference in team performance and effectiveness (Hambley et al., 2007; Lievens et al., 1997; Morgeson et al., 2009; Zaccaro & Klimoski, 2002). In a study on the relationship between organizational support and managerial effectiveness, Srivastava and Sinha (2009) found team effectiveness was dependent on the leader's ability to assign definitive duties individually to team members while rewarding the employees' efforts. The leader's management style can both contribute to remote employee engagement and set the ambiance for the organizations' culture. In engaging virtual teams, a substantial attribute seems to be the leader's positive influence (Mutha & Srivastava, 2021). Further, scholars have observed,

investigated, examined, and considered numerous leadership studies and theories, and established transformational leadership appropriate for virtual teams (Alok & Israel, 2012; Figueroa-Gonzalez, 2011; Mutha & Srivastava, 2021; Xu & Thomas, 2011).

Figueroa-Gonzalez (2011) found a direct positive relationship between transformational leadership and overall employee engagement. Additionally, “the transformational leadership style was in general found culpable for 10% and 12% of the teamwork and management support engagement sub dimensions” (p. 111). The author explained managers who especially deployed characteristics of transformation leadership style seems to build strong emotional connection with their direct reports (p. 115). According to Attridge (2009), leaders who exemplified the transformational leadership style “elevate the personal status of workers thought his or her ability to demonstrate humility, values, and concern for others” (p. 393). Further, employees tend to develop greater trust in their leadership in conjunction with a sense of improved self-efficacy while both factors are strongly associated with well-being and productivity (p.393). Moreover, Tate et al. (2021) found that leadership or management who deployed performance management activities such as feedback (communication), recognition (rewards), and establish a climate of trust will in turn have engaged employees and greater productivity.

There are studies, statistics, and professional collected data that describes the challenging characteristics or the relationship between leadership and their relationship with remote employees, and among virtual teams. However, there are some suggestions on ways to overcome these uncomfortable business calamities while competing in this increasingly globalized society. For instance, Grenny and Maxfield (2017) found 52% of 1,153 remote employees reported feelings of inequality, isolation, trust issues where their coworkers made project changes without advance notifications, feelings of anxiety about lack of relationships and team cohesiveness where coworkers were lobbying against them, saying bad things about them behind their backs and not combating for priorities. For leaders to take advantage of remote programs plus create an ambiance to include feelings of trust, connection, belongingness, and shared purpose based on this study should encourage the following seven best management practices habits (Grenny & Maxfield, 2017):

- Consistent and frequent check-ins
- Face-to-face contact (video) or voice-to-voice contact
- Make explicit expectations
- Be available
- Communicate effectively
- Prioritize relationships with team
- Prioritize relationships with team
- Demonstrate ability to use technology

The way remote employees are led varies because some type of dependency exists. For decades, the fact remains the “one size fits all” practice is nonexistence in every organization. For this reason, management practices across teleworkers suggests that there is no single best way to manage and supervise remote employees (Dimitrova, 2003, p.193).

### 3. Research Questions and Hypotheses

The goal of this study was to answer the main research question: What is the influence of an organization’s leadership culture on remote employee engagement?

To answer this omnibus question, various sub questions were examined as follows:

RQ1: Does the leadership culture of an organization as defined by OCAI contribute to employee engagement?

RQ2: What is the main organization leadership culture characteristic that contributes most to employee engagement?

RQ3: Do all organization leadership cultures as defined by the OCAI contribute positively to employee engagement?

To answer all these research questions, the following null hypotheses (Hx-0) and alternatives (Hx-A) were considered. H1-0: There is no statistically significant relationship between the leadership culture of an organization as defined by OCAI framework and employee engagement.

H1-A: There is a statistically significant relationship between the leadership culture of an organization as defined by OCAI framework and employee engagement.

H2-0: There is no main organization leadership culture characteristic contributing most to employee engagement.

H2-A: There is an organization leadership culture that contributes most to employee engagement.

H3-0: All leadership cultures as defined by the OCAI framework do not contribute positively to employee engagement.

H3-A: All leadership cultures as defined by the OCAI framework contribute positively to employee engagement.

#### 4. Methodology

##### 4.1 Research Approach and Measurement Instruments

To answer these research questions and in seeking the influence of an organization's leadership culture on remote employee engagement, this study used two main instruments. The first instrument is called EENDEED (Enhanced Engagement Nurtured by Determination, Efficacy, and Exchange Dimensions). Developed by Larney and Randall (2022), EENDEED is a validated instrument that measures traditional workers and remote employees' levels of engagement. The EENDEED reliability for this study was 0.877 in its measurement of employee engagement. In a subsequent study by Larney (2022), the reliability for the EENDEED scale featured a Cronbach alpha of 0.791.

The second tool used was the Organizational Culture Assessment Instrument (OCAI), a validated instrument developed by Cameron and Quinn (2006). This tool was used to measure organizational culture related to leadership and assessed according to reliability and validity. Cronbach's alpha coefficients were calculated for all the culture types, and the internal consistency indices ranged from 0.6 to 0.8 demonstrating sufficiency (Cameron & Quinn, 2006).

The four main questions of organizational leadership culture used in this survey asked the following questions:

MENTORING: The leadership in my organization is generally considered to exemplify mentoring, facilitating, or nurturing.

RISK-TAKING: The leadership in my organization is generally considered to exemplify entrepreneurship, innovation, or risk taking.

RESULT-ORIENTED: The leadership in my organization is generally considered to exemplify a no-nonsense, aggressive, results-oriented focus.

COORDINATING: The leadership in my organization is generally considered to exemplify coordinating, organizing, or smooth-running efficiency.

*Note: The resulting survey questionnaire was completed online by randomly selected participants.*

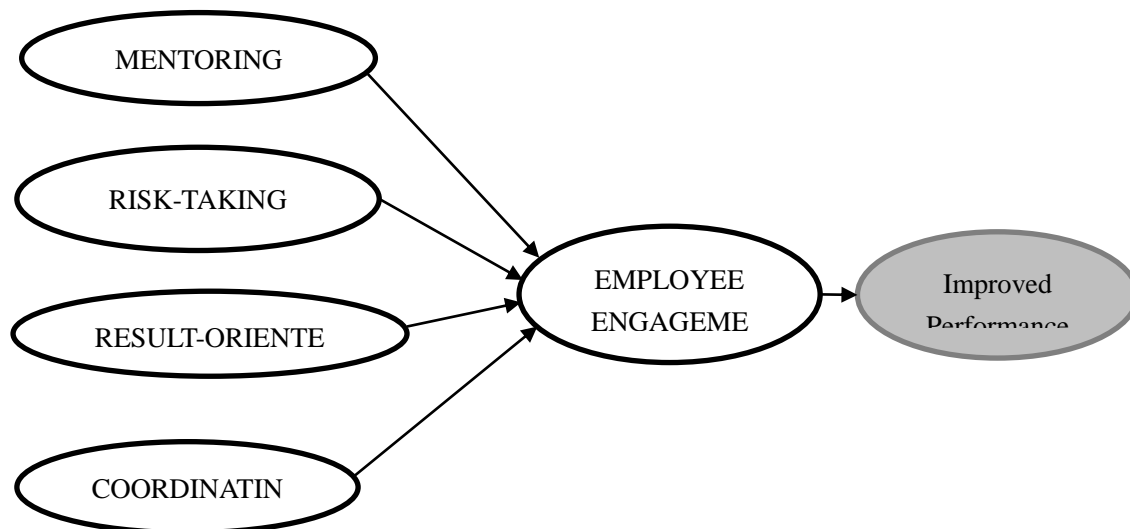


Figure 1. Theoretical Framework of the Study

Note: This figure depicts the relationship between organizational leadership culture as defined by OCAI and employee engagement as defined by EENDEED

##### 4.2 Population and Sample Size

Data were collected through an online survey from 325 participants who were randomly selected from all workers in organizations within the United States. All 325 candidates completed their questionnaires online. This sample size was deemed adequate for the study because an a-priori power analysis using GPower 3.1 with an error probability of 0.05 and a power of 0.95 using 4 predictors provided a suggested sample size of 129 candidates. With 325 participants, the sample was considered good for the analysis to proceed. This was validated by conducting a post-hoc analysis using GPower 3.1 with an effect size of 0.15, which suggested an achieved power of 0.99, well above the 0.95 anticipated. The sample was thus confirmed to be adequate for the analysis.

## 5. Data Analysis

After the validation of the sample size used for this study, the validity of the survey instrument was estimated. This was done by using the Cronbach Alpha statistic. This test was conducted against the collected data to estimate the internal consistency and reliability of the survey instrument. Using SPSS, the function Analyze/Scale/Reliability Analysis was applied on the 13 items that composed the survey instrument, namely the 9 items of EENDEED and the 4 selected organizational leadership culture items from OCAI. The resulting alpha showed a value of 0.899, well above the 0.70 considered suitable for studies (Taber, 2018). This confirmed the achievement of a good internal consistency of the survey instrument and the study could proceed with the assumptions of multiple regression.

### 5.1 Assumptions of Multiple Regression

Prior to the final analysis, the assumptions of multiple regressions were validated to confirm the appropriateness of the data and the statistics. In this study, one dependent variable (ENGAGEMENT) and four independent variables (MENTORING, RISK-TAKING, RESULT-ORIENTED, and COORDINATING) were identified. All independent variables were attitudinal or observed variables, and the dependent variable was a latent variable.

With 325 participants and 4 independent variables (IVs), the ratio of cases to IVs was 81.25. This is well above the recommendation of  $n \geq 20 + 5m = 20 + (5 \times 4) = 40$  suggested by Khamis and Kepler (2010) or the minimum recommended by Tabachnick and Fidell (2013) of  $n \geq 50 + 8m$  or  $n \geq 50 + (8 \times 4) = 82$ . Hence, this study met the minimum requirements for the ratio of cases to independent variables.

All 325 participants properly filled in their questionnaires. As such, there were no missing cases. All the same, a study of univariate outliers was conducted using the z-scores of each variable. None of the resulting z-score was outside the range from -3.29 to +3.29 suggested by Tabachnick and Fidell (2013). This confirmed the absence of univariate outliers, in addition to the absence of missing values confirmed earlier.

Multivariate outliers were analyzed using the Mahalanobis distance of each record. This was computed as  $1 - \text{CDF.CHISQ}(\text{MAH}_1, 4)$ , where MAH\_1 was obtained through the SPSS function Analyze/Regression/Linear and selecting Mahalanobis in Distances box from the save option as explained by Lartey (2021). Seven records had a resulting probability below .001 suggesting the presence of multivariate outliers and were removed from the dataset. A subsequent multivariate outlier analysis showed no presence of multivariate outliers. The current dataset for the study had  $325 - 7 = 318$  records.

The analysis of the residuals was used to ascertain the assumption of normality, linearity, and homoscedasticity. The Durbin-Watson test statistic was used to detect the presence of autocorrelation in the residuals. The variance inflation factor (VIF) and the tolerance were used to validate the absence of multicollinearity and singularity. With all the assumptions of multiple regression validated, the study continued with the creation of a model to answer the research questions.

## 6. Results

A standard multiple regression model was created to answer the research questions. The model assessed the impact of the organization leadership culture characterized by MENTORING, RISK-TAKING, RESULT-ORIENTED, and COORDINATING as defined by the OCAI framework on employee engagement as measured by EENDEED, a nine-item instrument developed by Lartey and Randall (2022). The resulting model confirmed the presence of a significant regression equation  $F(4, 317) = 60.70, p < 0.001$  as shown by Table 1. This answers the first research question RQ1 that asked, “Does the leadership culture of an organization as defined by OCAI contribute to employee engagement?” The null hypothesis of no contribution was thus rejected, and the alternate hypothesis retained. As such, the findings confirmed that there was a statistically significant relationship between an organization’s leadership culture and its employees’ level of engagement. In other words, the organization leadership culture as defined by OCAI contributes to employee engagement.

The model summary on Table 2 shows an  $R^2$  of 0.437, suggesting that this model explains 47.3 percent of the



variability in the dependent variable. It can thus be posited that there is a significant correlation between the organization leadership culture and employee engagement ( $p < 0.001$ ).

Table 3 displays a view of the final model with its details comprising the unstandardized regression coefficients (B), the standardized coefficients (Beta), the t-score of each dependent variable and the corresponding  $p$ -value or significance, and finally the collinearity statistics (VIF and tolerance). This table was used in answering research questions RQ2 and RQ3.

RQ2 asked “What is the main organization leadership culture characteristic that contributes most to employee engagement?” Between the four leadership cultures of an organization as specified by the OCAI framework (MENTORING, RISK-TAKING, RESULT-ORIENTED, COORDINATING), Table 4 shows that MENTORING has the highest contribution in predicting employee engagement as confirmed by its  $t$ -score. The null hypothesis H2-0 was thus rejected, and the alternate hypothesis H2-1 retained.

RQ3 asked: “Do all organization leadership cultures as defined by the OCAI contribute positively to employee engagement?” Table 3 shows that RESULT-ORIENTED leadership cultures do not significantly contribute to employee engagement. Indeed, the resulting  $p$ -value is not statistically significant ( $p > 0.05$ ). For that reason, the null hypothesis H3-0 of non-contribution was retained, and the alternate hypothesis H3-1 was rejected.

Table 1. Analysis of variance (ANOVA) showing a significant F statistic confirming that the R-Square of the solution is significantly greater than zero

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	79.904	4	19.976	60.705	.000 <sup>b</sup>
	Residual	102.998	313	.329		
	Total	182.903	317			
a. Dependent Variable: EENDEED-9						
b. Predictors: (Constant), COORDINATING, RESULT_ORIENTED, MENTORING, RISK_TAKING						

Table 2. Model Summary Showing an R2 of .437

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.661 <sup>a</sup>	.437	.430	.57365
a.Predictors: (Constant), COORDINATING, RESULT_ORIENTED, MENTORING, RISK_TAKING				

Table 3. Model presentation showing the contribution and significance of each independent variable

Coefficients <sup>a</sup>								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.479	.150		9.881	.000		
	MENTORING	.216	.047	.276	4.637	.000	.509	1.966
	RISK_TAKING	.187	.048	.241	3.932	.000	.477	2.096
	RESULT_ORIENTED	.058	.039	.080	1.496	.136	.633	1.579
	COORDINATING	.147	.046	.187	3.169	.002	.517	1.934
a. Dependent Variable: EENDEED9								

## 7. Discussions, Limitations, and Future Studies

### 7.1 Discussion

Remote workers have experienced shifts in personal and work relationships as their workplaces have migrated to the cloud. Workplace flexibility has generated greater contentment (Felstead & Henseke, 2017), more satisfaction among workers (Mache et al., 2020), and increased job commitment (Kazekami, 2020). However, remote employees' performance also is more contingent on clear leadership (Whiteside & Dixon, 2022) and more specific communications (Bui et al., 2019; Shockley et al., 2021). Operating in the cloud requires that virtual workers address increased isolation by pivoting how they connect socially (Vander Elst et al., 2017), segregate their personal and work lives (Eddleston & Mulki, 2017), and retain collaborative team engagement (de Klerk et al., 2021).

The findings of this study confirm the relationship between an organization's leadership and employee engagement, with mentoring and risk-taking serving as primary drivers of employee engagement. Leaders traditionally have been responsible for establishing an environment that allows employees to flourish. Workers who are supported by their leaders, whether immediate supervisor or c-suite executive, perform at higher levels, are more committed to the organization, and experience greater motivation to remain engaged even in a virtual environment.

### *7.2 Limitations*

While this study made significant contributions to the literature on Organizational Culture and Remote Employee Engagement, generalization of the findings should not be made without considering the limitations noted below:

- Although some organizations and companies are transitioning back to working full time in the office, others are evolving into a hybrid workforce where the employees can work both onsite in the office a few days a week while working remote or work from home the remainder of the week. The participants for this study were limited only to remote employees, those employees who work from home, distance work, mobile work or anywhere which the employee do not commute to a centralized workplace location.
- This study was limited to employees who have a remote role with their company, not a specific industry.
- The findings of this study were limited to the United States and should not be generalized to other areas due to geographical variation.
- There are multiple individualized tools that measure employee engagement, attitudes, and behaviors. This study was only measured by EENDEED, a nine-item engagement instrument developed by Lartey and Randall (2022), specialized in the measurement of remote employee engagement and based on the Self-Determination, Self-Efficacy, and Social Exchange theories. There are a small number of studies that used this instrument with positive outcomes.
- Limitations between leadership and management culture.

### *7.3 Opportunities for Future Research*

- The result of this study indicates that an organization's culture sets the ambience for employee attitudes and behavior, which are critical components to employee engagement. Since this study was conducted only in the United States, conducting this research in other countries and on a wider scale to provide more robust findings would be greatly beneficial to both academia and practice.
- Future research studying these variables and constructs from a qualitative method to gain more insight based on situation (downsizing, mergers, or layoffs) and attitude of the employee.
- Future research should also explore additional moderators such as cultural differences.
- Further, this study could be carried out by a specific organization or company to capture the sentiments and interactions of the employees and how change management can be implemented to improve the culture and remote employee engagement.

## **8. Conclusion**

In this study we sought to answer the overall question, What is the influence of an organization's leadership culture on remote employee engagement?, with the unique conditions brought about with advent of the COVID-19 pandemic. Further, the investigation focused on the impact of the organization's leadership culture characterized by MENTORING, RISK-TAKING, RESULT-ORIENTED, and COORDINATING as set forth by the Organizational Culture Assessment Instrument (OCAI) framework on employee engagement (Cameron &

Quin, 2006).

The findings revealed that the organizational leadership culture as defined by OCAI framework does contribute to remote employee engagement. Moreover, MENTORING has the highest contribution in predicting remote employee engagement, while RESULT-ORIENTED leadership cultures do not significantly contribute to remote employee engagement

As identified in this analysis, a model is introduced that Human Capital professionals and organizational leadership alike can embrace and employ to understand and shore up their employees' engagement and overall commitment during and after this COVID-19 pandemic period. The hybrid and remote employee engagement model proposed suggests that the components of the OCAI framework are factors to be addressed to favor organizational health and wellbeing and offers a mechanism for effective focus, measurement, and follow-up. As stated, this study trumpets mentoring as a way forward that affords the organization the highest means by which it can enhance hybrid and remote employee engagement.

This research makes several contributions. For the scientific community, the article offers a blueprint for giving specific attention to remote employee engagement. The article's results provide a specific set of constructs to impact remote employee engagement in specific, and in general, the organizational crisis associated with remote employee engagement caused by the COVID-19 pandemic. All in all, this study is offered for future studies in investigating factors to impact remote employee engagement.

Practically speaking, this study offers a means by which remote employee engagement can be addressed to improve issues of employee productivity and organization performance during such crises like the Covid 19 pandemic and beyond. It offers a roadmap for organizational leadership and Human Capital professionals to use as a reference to achieve remote employee engagement and foster organizational productivity and wellbeing. Additionally, a roadmap that can serve to alter and or break free from what, Marcus Buckingham (2022), says in his book *Love + Work about engagement*: "Most of us actually don't know the real truth of what we love – what engages us and makes us thrive – and our workplaces, jobs, schools, even our parents, are focused instead on making us conform." Certainly, what we have learned is what engages us is a workplace not ushering the idea of conformity, but one that alternatively, supports and nourishes a leadership culture that relishes and offers mentoring.

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