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| RESEARCH ARTICLE

Exploring The Impact of Remote Work on Organizational Culture and Innovation in The Technology Sector Of Emerging Economies: A Cross Section Study Of Indonesia And Cameroon

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| ABSTRACT

Remote work has rapidly transformed organizational operations globally, significantly accelerated by the COVID-19 pandemic. This study specifically investigates its unique impacts on organizational culture and innovation within the technology sectors of two emerging economies, Indonesia and Cameroon. Unlike general studies of remote work, this research emphasizes distinct socio-economic environments and differing digital infrastructures that characterize these nations. Utilizing quantitative methodologies, this research adapts culturally-relevant survey instruments (OCAI and SOQ) to explore how remote work affects organizational culture dimensions such as communication, employee engagement, collaboration, and innovation capabilities distinctly in both contexts. The findings underline both positive outcomes, including enhanced workforce flexibility and expanded talent pools, and challenges like reduced interpersonal interactions and potential limitations on innovation. By providing comparative insights tailored to the local technological and cultural dynamics of Indonesia and Cameroon, this study offers actionable recommendations for business leaders, policymakers, and researchers aiming to sustain organizational innovation and foster resilient cultures in the evolving landscape of remote work.

| KEYWORDS

Remote Work, Organizational Culture, Innovation, Emerging Economies, Technology

| ARTICLE INFORMATION

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1. Introduction

1.1 Background of the Study

Remote work first gained conceptual traction in the 1970s, driven by advancements in communication technologies and growing interest in improving work-life balance, reducing commuting times, and lowering operational costs by tapping into geographically dispersed talent (Olson, 1983; Elling, 1985). For decades, its adoption remained limited to select industries and specialized roles, constrained by infrastructural and technological limitations. However, the COVID-19 pandemic in 2020 served as a major inflection point, transforming remote work from a discretionary strategy into a vital mechanism for organizational survival and business continuity (Willcocks, 2020).This abrupt shift profoundly altered conventional workplace structures, especially in areas related to collaboration, organizational culture, and innovation. The transition to remote work during the

pandemic was unprecedented in scale. Prior to 2020, only 56% of the European Union's workforce engaged in remote work, but regions like Helsinki-Uusimaa saw this rate surge beyond 37% at the height of the crisis (European Commission, 2022). In the United States, remote work participation exceeded 35% (Brynjolfsson et al., 2020). In the aftermath of the pandemic, major technology firms such as Meta and Twitter institutionalized remote or hybrid work models, signaling a long-term reconfiguration of work designed to increase flexibility and productivity (Johnson & Suskewicz, 2020).

While remote work has delivered tangible benefits including enhanced employee well-being, greater productivity, and access to broader talent pools (Choudhury, Foroughi & Larson, 2021; Soroui, 2021) it also presents significant organizational challenges. Chief among them is the strain placed on communication, trust, knowledge sharing, and cultural cohesion, all of which are foundational to fostering sustained innovation (Malhotra, Majchrzak & Rosen, 2007; Grant, Wallace & Spurgeon, 2013). As organizations become increasingly digital and decentralized, the ability to preserve a unified, innovation-supportive culture becomes both more complex and more critical (Barney, 1986; Tian et al., 2018).

Theoretical models such as the Competing Values Framework (CVF) have been instrumental in analyzing how organizational culture evolves under shifting work modalities. Harrington and Ruppel (1999) demonstrated that remote work redefines workplace norms, while Chen and Nath (2005) introduced the concept of "nomadic culture," emphasizing the strategic value of digital mobility in enhancing organizational adaptability. Yet, despite these contributions, maintaining innovation-centric cultures in remote settings remains difficult. The erosion of spontaneous face-to-face interactions, reduced visibility of leadership, and weakened interpersonal relationships have been shown to impair an organization's capacity for continuous innovation (Howard-Grenville, 2020).

Although substantial literature exists on the individual relationships between remote work, organizational culture, and innovation, their interconnected dynamics remain underexplored particularly in the context of emerging economies. This study addresses this critical gap by focusing on the technology sectors of Indonesia and Cameroon, two countries that offer unique yet comparable contexts due to their distinct digital infrastructure, labor market dynamics, and evolving remote work practices.

Using a quantitative research design, this study investigates how remote work influences key dimensions of organizational culture such as communication, collaboration, trust, and engagement and how these, in turn, affect innovation outcomes. By providing comparative, context-specific insights, this research aims to support organizational leaders, policymakers, and scholars in crafting culturally adaptive strategies that foster innovation and resilience in a rapidly transforming world of work.

1.2 Problem Discussion

The evolving relationship between remote work, organizational culture, and innovation has long attracted scholarly interest, but the COVID-19 pandemic has drastically accelerated both the relevance and urgency of this line of inquiry. Prior to the pandemic, research by Harrington and Ruppel (1999) applied the Competing Values Framework (CVF) to examine how remote work reshapes cultural dimensions within organizations. Their findings revealed that telecommuting influenced how employees collaborate, interact, and internalize organizational norms. This early research paved the way for contemporary investigations that now seek to understand how remote work interacts with cultural foundations in deeper, more systematic ways. In particular, this study adopts CVF as a central analytical tool to explore how remote work modifies the cultural conditions necessary for innovation to flourish.

Building upon this foundation, Chen and Nath (2005) introduced the concept of "nomadic culture," emphasizing that flexible, location-independent work enabled by digital tools can itself be seen as a distinctive organizational paradigm. They argued that such cultures foster organizational agility, employee satisfaction, and operational efficiency, especially when properly aligned with technology-driven strategies. These insights support the view that remote work is not just a logistical shift but a transformational force that redefines the cultural fabric of modern organizations.

Separately, scholars have extensively explored the role of organizational culture in driving innovation. Büschgens, Bausch, and Balkin (2013) demonstrated that some of the world's most innovative companies including Google and Apple owe their long-term success to cultures rooted in collaboration, shared vision, and psychological safety. These innovation-centric cultures are marked by a commitment to creativity, experimentation, and the free flow of ideas. As Howard-Grenville (2020) emphasized, such cultures thrive on authenticity and strong interpersonal connections elements that cultivate trust and a sense of community, which in turn act as engines for innovation.

However, the rise of remote work presents a direct challenge to these cultural mechanisms. As face-to-face interactions diminish, so too does the frequency of informal knowledge sharing, peer learning, and exposure to leadership behaviors all of which are vital for embedding innovative mindsets (Malhotra, Majchrzak & Rosen, 2007; Grant, Wallace & Spurgeon, 2013). Remote work may also dilute the shared experiences and social cues that help individuals feel psychologically safe and organizationally connected. Nevertheless, the remote model is particularly prevalent in knowledge-based industries, where workers are naturally more immersed in digital environments and often benefit from the autonomy that remote work affords (Eyal-Cohen et al., 2019; Dingel & Neiman, 2020).

Despite growing recognition of the individual relationships among remote work, organizational culture, and innovation, the interplay of all three remains insufficiently addressed in existing literature. Most empirical studies focus on dyadic relationships either remote work and culture, or culture and innovation without capturing their reciprocal and dynamic interdependencies. Furthermore, there is a conspicuous lack of context-specific analysis, particularly within emerging economies, where infrastructural, social, and managerial contexts differ markedly from those in developed markets.

This study addresses this gap by investigating how remote work influences the cultural attributes that foster innovation, focusing on two representative emerging economies: Indonesia and Cameroon. These countries offer distinctive case studies due to their diverse digital capacities, socio-economic structures, and varying degrees of remote work adoption. By integrating the constructs of remote work, organizational culture (through CVF), and innovation within a single empirical framework, this research aims to generate comparative insights into how digital work practices are reshaping the foundations of innovation-driven cultures in non-Western contexts.

1.3 Problem Formulation and Purpose

With remote work format getting more and more popular, from being a visitor to becoming an integral part of the business processes, it becomes essential to understand how that process impacts different attributes of the organization. This study specifically investigates two critical aspects, namely, organizational culture and innovation. Culture is a powerful enabler of business success today. A culture of innovation supports an organizational climate in which it is easy to adapt, be creative, and give your company a sustainable competitive advantage (Jassawalla & Sashittal, 2002). Therefore, the key goal of this study is to investigate the effect of remote work on the association between organizational culture and innovation, with a special focus on the technological firms.

In the course of reviewing existing literature, we found one of the few studies that endeavored to explore the nexus between remote work, organizational culture, and innovation is that of Andriyanty et al. (2021). Most of their research focused on the remote work and organizational culture relationship and how these factors related each other to overall firm performance. Yet they dealt superficially with innovation, as if a side effect of great performance, and did not explore how organizational culture would potentially cultivate or contain innovation in a remote work environment. This makes it especially relevant as there is a lack of comprehensive sector specific analysis on this topic.

This thesis attempts to fill this gap by recognizing the main features of an innovative culture and assessing the effects on these features in remote organizations. Moving beyond a theoretical discussion, the article also aims to empirically demonstrate if the impacts mentioned actually exist and can be measured through statistical methods. As businesses worldwide are increasingly adopting remote work, especially since the COVID-19 pandemic, it is crucial for leaders to appreciate the impact of this on their innovation capability. Essentially, managers need data-driven insights on how to design remote teams in a way that fosters innovation in an environment that is distributed by design.

To improve the applicability of the study, the research will specifically target the technology industry, known for its high levels of innovation as well as a focus on knowledge-intensive work. The choice to focus on the technology sector is motivated by two primary considerations. Firstly, data collection within this industry is expected to be more feasible within the timeframe of this thesis. Secondly, the technology sector is home to some of the world's most innovative and influential companies such as Apple, ABB, and Ericsson which have pioneered both technological advancements and remote work policies (Glassdoor, 2022). By analyzing how remote work reshapes organizational culture and innovation within this dynamic sector, this study aims to generate actionable insights that are both academically rigorous and practically relevant.

1.4 Research Motivation

The increasing adoption of remote work has transformed the traditional workplace, reshaping how employees collaborate, innovate, and engage with organizational culture. While research on remote work, organizational culture, and innovation has gained momentum, there remains a critical gap in understanding the triangular relationship among these three dimensions. This study is motivated by the need to fill that gap, particularly within the technology sector, where innovation is a key driver of success.

1.4.1. ***Data is a growing resource between October 2022 and October 2023.***

Between October 2022 and October 2023, the proliferation of digital technologies, combined with rapid global shifts in work patterns, continued to position data and its organizational applications as a critical resource. Even prior to the COVID-19 pandemic, organizations had been progressively adopting remote work models, driven by trends in digital transformation and globalization. However, the pandemic catalyzed this transition, turning remote work from a flexible alternative into an operational necessity (Kniffin et al., 2021).

While remote work has demonstrated clear advantages most notably in enhancing workplace flexibility and reducing operational costs it has also introduced significant challenges. Chief among these is the question of how to sustain a cohesive organizational culture and maintain a steady pipeline of innovation when employees are distributed across locations. Both culture and innovation are widely acknowledged as essential drivers of long-term organizational success, and their disruption could pose serious risks to competitiveness, collaboration, and strategic agility (Bloom et al., 2022).

In response to these concerns, this study investigates the extent to which remote work affects the cultural mechanisms that support innovation within organizations. Specifically, it aims to provide evidence-based insights into how remote work reshapes the internal dynamics that influence creative thinking, knowledge sharing, and collective problem-solving. The ultimate goal is to offer a strategic perspective that enables organizations particularly in the technology sectors of emerging economies to adapt their cultural practices in ways that sustain innovation in an increasingly decentralized work environment.

1.4.2 Organizational Culture and Innovation in a Virtual Working World

Employees share knowledge, collaborating together, and feeling an immense sense of belonging are environments where innovation thrives (Amabile & Pratt, 2016). Organizational culture is fundamental in the pattern of these dynamics because it sets the values, standards, and actions to promote innovative thinking. In remote working environments, the lack of face-to-face interaction, spontaneous idea sharing, and mentorship opportunities makes fostering innovation-driven culture a challenge (Howard-Grenville, 2020). Thus, this study aims to empirically examine the impact of working remotely on the cultural conditions for innovation and whether organizations manage to sustain (or even increase) their innovation potential in spite of spatial separation.

1.4.3 The Technology Sector as a Key Focus Area

The technology sector is an ideal context for this study, as it consists of companies that are at the forefront of remote work adoption and digital collaboration. Leading firms like Google, Apple, and Microsoft have successfully integrated remote work into their operational models while maintaining a strong culture of innovation (Glassdoor, 2022). However, smaller and emerging tech firms may face challenges in sustaining innovation when employees work remotely. By focusing on this sector, this study aims to derive insights that can help both established and growing companies navigate the complexities of remote work while fostering an innovative culture.

1.4.4 Practical and Managerial Implications

From a practical perspective, this study is driven by the need to provide actionable insights for business leaders and managers who are navigating the post-pandemic workplace. As firms continue to adopt hybrid and remote work models, it is essential to understand:

- ✓ How remote work affects the cultural traits that drive innovation
- ✓ Whether firms need to redefine their organizational culture to sustain innovation remotely

- ✓ What strategies can be implemented to enhance employee engagement and collaboration in virtual settings

This research will offer evidence-based recommendations on how companies can design remote work policies that support a strong organizational culture while maximizing innovation potential. By leveraging statistical analysis and industry case studies, the findings will contribute to both academic knowledge and practical business strategies

1.4.5 Contribution to Academic Research

Despite the wealth of studies on remote work, organizational culture, and innovation as separate constructs, limited research has explored their interconnectedness in a single framework. This study contributes to the academic discourse by bridging this gap, offering a multi-dimensional perspective on how remote work impacts innovation through organizational culture. The insights from this research can inform future studies on digital work environments, employee engagement, and knowledge management in remote settings.

1.4.6. Goals of the Study:

In our research, our focus will specifically be on how remote work is changing the landscape of organizational culture and, in turn, and how this impacts the innovation performance of technology firms in Indonesia and Cameroon. Through this paper, we will investigate the key elements of organizational culture that support or hinder innovation, and the unique challenges that remote work presents to fostering creativity and collaboration. Here are a few things we aim to accomplish in this study:

1. To examine the impact of remote work on organizational culture in the technology sector: This goal aims to investigate how the shift to remote work influences key cultural traits within organizations, such as communication, collaboration, and employee engagement, in technology companies in Indonesia and Cameroon.

2. To identify the cultural factors that support innovation in the technology sector: This goal will focus on pinpointing the aspects of organizational culture such as openness, trust, and knowledge sharing that foster innovation in technology firms. The study will explore whether these factors are being maintained or altered due to the rise of remote work.

3. To explore the influence of remote work on the innovation capacity of technology companies in emerging economies: This objective aims to see if remote work has a positive, negative, or neutral influence on a firm's ability to innovate, specifically in the technology sectors in Indonesia and Cameroon.

4. Assess the impact of remote work on innovation in organizations: This objective seeks to determine the challenges (e.g., diminished collaboration, compromised organizational culture) and opportunities (e.g., greater flexibility, access to global talent) to innovation in organizations that emerge out of remote work in the technology sector.

5. To offer practical solutions for managing remote work to enhance organizational culture and innovation in emerging economies: This aim aims to provide managers in technology firms in emerging economies with specific recommendations for managing remote work, such as adapting their organizational culture to enable innovation while mitigating remote work challenges.

By meeting these goals, this study aims to provide a comprehensive understanding of how remote work affects both organizational culture and innovation in the technology sector of emerging economies, specifically Indonesia and Cameroon. By examining the interplay between these three factors, we hope to offer valuable insights into how companies can better navigate the challenges and opportunities presented by remote work. Ultimately, the findings will serve as a guide for organizations to foster a work environment that promotes both a thriving culture and sustainable innovation in the face of an evolving global landscape. Through this research, we aim to contribute to the broader discourse on remote work and its implications for organizational success, particularly in emerging economies where such shifts in work practices are becoming increasingly prevalent.

1.5Research Question:

What is the impact of Remote Work on organizational cultural traits and innovation in emerging economies, particularly the technology sector in Indonesia and Cameroon?

How does the move to remote working, impacts performance enhancing features of organizational culture, including collaboration, trust, knowledge sharing and a unified vision that are key in driving innovation of technology companies? This,

this research aims to investigate how organizations in emerging economies like Indonesia and Cameroon managing the transition to remote work practices and how this can either foster or hinder their potential to innovate.

1.6 Outline of the Study

This thesis is organized into five interconnected chapters, each contributing to a structured progression from theoretical conceptualization to empirical analysis and practical reflection. The organization ensures a logical development of the research narrative, beginning with foundational questions and culminating in evidence-based conclusions relevant to the technology sector within emerging economies.

- **Chapter 1** introduces the research background, delineates the problem statement, and defines the research objectives and guiding questions. The chapter further outlines the significance, scope, and limitations of the study, and concludes by presenting the overall structure of the thesis.

- **Chapter 2** provides a comprehensive review of the extant literature. It explores the theoretical underpinnings of organizational culture and innovation, followed by a critical analysis of remote work and its evolving implications for organizational functioning. The chapter highlights the Competing Values Framework (CVF) as the principal theoretical model and draws on relevant empirical studies to formulate the hypotheses that guide the research.

- **Chapter 3** details the research methodology. It describes the research design, sampling procedures, data collection techniques, and analytical tools employed, with particular emphasis on the use of Partial Least Squares Structural Equation Modeling (PLS-SEM). This chapter also discusses procedures for ensuring data quality, including reliability, validity, ethical safeguards, and the handling of missing data and outliers.

- **Chapter 4** presents the empirical results derived from the analysis. It begins with descriptive statistics and normality assessments, followed by a comprehensive evaluation of the measurement and structural models. This includes assessments of construct validity, reliability, and the testing of hypothesized relationships.

- **Chapter 5** interprets the study's findings in light of the theoretical framework and prior literature. It discusses both theoretical and practical implications, particularly as they pertain to innovation in the technology sectors of emerging economies such as Cameroon and Indonesia. The chapter also outlines the study's limitations, identifies directions for future research, and concludes by summarizing the study's key contributions to knowledge and practice.

Together, these chapters form a coherent and sequential research narrative, guiding the reader through the investigation of how organizational culture and remote work interact to influence innovation outcomes within digitally transforming economies.

1.7 Author's contribution

This research was conducted by the author, a second-year master's student in the International Business in the Asia-Pacific Region program at the National Research University Higher School of Economics, St. Petersburg. The author was responsible for the formulation of the research problem, development of the theoretical framework, data collection and analysis, and the overall writing of the thesis. Throughout the research process, the author received consistent academic guidance, constructive feedback, and methodological support from the research supervisor, whose expertise was instrumental in shaping the study's analytical rigor and academic relevance.

2: Literature Review

2.1 Theoretical Background

2.1.1 Remote Work and Innovation

The advent of remote work, significantly accelerated by the COVID-19 pandemic, has fundamentally transformed organizational operations, communication, and innovation processes. Initially perceived as a temporary response to a global crisis, remote work has evolved into a permanent fixture in many sectors, notably within technology-driven industries (Bloom et al., 2024). While remote work offers advantages such as enhanced flexibility, reduced operational costs, and access to a broader talent pool, it also presents challenges to innovation and the maintenance of organizational culture.

A primary concern is the reduction of spontaneous interactions and informal communications, which are critical for fostering creativity and knowledge sharing. Remote work environments can impede these serendipitous exchanges, thereby weakening the informal networks that often drive innovation (Lin et al., 2022). Furthermore, establishing trust, psychological safety, and a shared identity becomes more complex in fully virtual settings, particularly when team members lack prior in-person interactions (Gibson & Gibbs, 2006).

While much of the existing research on remote work focuses on Western and corporate contexts, emerging economies present unique dynamics. In regions such as Southeast Asia and sub-Saharan Africa, factors like digital infrastructure, leadership readiness, and socio-cultural norms significantly influence remote work experiences. For instance, studies indicate that in Latin America, contextual adaptation plays a crucial role in remote work efficacy (Contreras et al., 2022), while in emerging Asian markets, digital readiness and policy frameworks are pivotal in shaping innovation outcomes (Choudhury et al., 2023).

Recent empirical studies suggest that the impact of remote work on innovation may be conditional or evolve over time. For example, a longitudinal study found that while innovation performance may initially decline in remote settings, it can improve as organizations adapt their workflows and cultures (Bloom et al., 2024). This underscores the importance of temporal and organizational adaptation in understanding the effects of remote work.

Despite these insights, there is a paucity of studies focusing explicitly on remote work within African and Southeast Asian technology ecosystems. This gap highlights the significance of the current research, which aims to contextualize the influence of remote work in underrepresented digital economies such as Cameroon and Indonesia. By examining remote work as both a structural and cultural construct, this study contributes to the broader discourse on virtual collaboration and innovation across diverse organizational settings.

2.1.2 Organizational Culture and Innovation

Innovation, as first conceptualized by Schumpeter (1942), involves a process of creative destruction through which outdated systems, technologies, and business models are replaced by newer, more efficient alternatives. This foundational idea has since evolved, with recent scholarship emphasizing that innovation is not limited to invention, but also includes the internal processes and capabilities that enable effective implementation (Crossan & Apaydin, 2010; Tavassoli & Karlsson, 2015).

Organizational culture plays a critical role in shaping these innovation outcomes. Cultural norms influence whether employees feel encouraged to take risks, share ideas, and experiment with new solutions (Martins & Terblanche, 2003; Jaskyte, 2011). In this sense, innovation becomes embedded not only in what an organization produces, but in how it fosters learning, adapts to challenges, and supports continuous improvement. In settings such as remote or hybrid work environments, the role of culture becomes even more significant, as informal cues and shared values help maintain collaboration and creativity across distances (Anderson et al., 2014).

One of the persistent difficulties in innovation research is how to measure innovation accurately. Traditional metrics like patent counts or product releases are often inadequate because they overlook the internal climate and long-term processes that lead to innovation (Crossan & Apaydin, 2010). To address this, many scholars assess the perceived "innovation climate" within an organization essentially, how employees view the support and openness to new ideas in their workplace (Birkinshaw et al., 2008). Related to this is the concept of innovative work behavior, which focuses on how individuals initiate and implement new ideas (Messmann & Mulder, 2012).

Several instruments have been developed to evaluate innovation climate. While comprehensive tools such as the Team Climate Inventory (TCI) and the Climate for Innovation Scale (CIS) are widely used, their length can be impractical in applied research. The Situational Outlook Questionnaire (SOQ), by contrast, offers a more efficient option while still covering essential elements like trust, autonomy, and encouragement of risk-taking (Isaksen et al., 2001). Its strong psychometric performance has been confirmed in multiple studies (Hunter et al., 2007), making it particularly suitable for use in emerging economies where practical constraints may limit the scope of measurement tools.

In this study, the SOQ is used to assess how conducive the organizational climate is to innovation, especially under conditions shaped by remote work. This approach supports the broader aim of understanding how organizational culture and new work modalities interact to affect innovation capacity in the technology sectors of Indonesia and Cameroon.

2.2 Remote Work and Organizational Culture

The widespread adoption of remote work, especially following the COVID-19 pandemic, has significantly altered the way organizations operate and maintain their cultural foundations. Traditional models of organizational culture have long emphasized the importance of physical proximity, face-to-face interaction, and in-office rituals in building shared meaning and reinforcing collective values (Spataro & Bloisi, 2023). However, as work environments shift toward distributed and often asynchronous digital systems, there is a growing need to reassess how organizational culture is formed, sustained, and transmitted when employees are no longer co-located.

This study focuses on the spatial dimension of remote work namely, the effects of physical separation on organizational life as conceptualized by Elsbach (2003) and further developed by Choudhury et al. (2021). In this view, it is not merely the flexibility of work hours that matters but the physical disconnects between employees and their organizational spaces. This disconnection has been shown to affect how individuals form trust-based relationships, internalize values, and engage in collaborative innovation (Wang, Noe, & Wang, 2014; Ni et al., 2018). While digital tools facilitate communication, they often fall short in replicating the spontaneity and depth of interaction found in face-to-face environments, which are essential for a cohesive and innovation-conducive culture.

From a theoretical standpoint, remote work challenges traditional clan-based control mechanisms as proposed in Control Theory (Ouchi, 1980). Clan control relies heavily on shared values, informal mentorship, and social cohesion elements that become fragile in virtual settings. As physical interactions diminish, the ability of organizations to align employees around a shared cultural core increasingly depends on the strength of their digital culture infrastructure and the adaptability of their leadership. This is especially critical in innovation-driven sectors, where informal idea-sharing and psychological safety are essential for performance (Molino et al., 2020; Contreras et al., 2022).

The pandemic highlighted which organizations were more resilient in terms of cultural continuity. Firms that had previously embedded their values through strong cultural symbols, storytelling, and rituals were better equipped to maintain a consistent identity when transitioning to remote work (Howard-Grenville, 2020). Others, however, experienced cultural fragmentation, with employees reporting a loss of connection and reduced identification with the organization (Banjo et al., 2020). This divergence points to a major concern: how can organizations retain the depth of their culture when the spatial dynamics that traditionally reinforce it are no longer present?

Research has also shown that remote work does not affect all cultural types equally. Hierarchical cultures may become strained due to increased communication barriers and diminished managerial oversight. In contrast, rational cultures, which emphasize performance outcomes and goal-setting, may continue to function effectively if supported by clear digital metrics and evaluation systems (Maruping et al., 2021). On the other hand, cultures that rely on collaboration, learning, and emotional connectivity such as developmental and group cultures may suffer in remote settings due to the erosion of informal learning and reduced social bonding opportunities.

Given these dynamics, this study applies a cultural contingency perspective to examine how remote work modifies the relationship between specific cultural attributes and innovation outcomes. The central argument is that while remote work offers operational flexibility and expands access to talent, it can also introduce friction into the cultural systems that traditionally support innovation. These tensions are particularly pronounced in cultures that depend on tacit knowledge exchange and relational trust. Accordingly, this study explores how remote work interacts with developmental, group, hierarchical, and rational cultures in shaping innovation performance.

By approaching remote work not only as a logistical shift but also as a significant cultural transformation, this research aims to provide deeper insights into how organizations can adapt their cultural practices to maintain cohesion and innovative capacity in an increasingly digital and dispersed work environment.

2.3 Theory of Organizational Culture

The concept of organizational culture has long been a focal point in organizational theory, providing a lens through which scholars and practitioners seek to understand how values, norms, and shared assumptions shape behavior and outcomes within institutions. Among the most influential theoretical contributions to this discourse is the work of Joanne Martin (2002), who

proposed three distinct but interrelated perspectives for studying organizational culture: integration, differentiation, and fragmentation. These paradigms not only offer alternative conceptualizations of culture but also suggest methodological implications and strategic consequences for organizations.

The integration perspective, often adopted in functionalist and managerialist traditions, posits that organizational culture operates as a coherent system wherein shared values, symbols, and practices are broadly accepted and mutually reinforcing across the organization. This lens emphasizes consistency, alignment, and clarity attributes considered vital for organizational effectiveness. It resonates strongly with strategic leadership goals, especially in environments that demand coordination, identity coherence, and aligned innovation efforts. From this viewpoint, culture is seen as a resource to be harnessed, a "lever" that leaders can use to steer the organization toward collective objectives (Schein & Schein, 2017). Quantitative studies commonly adopt this perspective, given their reliance on generalizable patterns and aggregated data, which presume cultural homogeneity.

In contrast, the differentiation perspective acknowledges that organizations are rarely monocultural. Instead, they are composed of multiple, sometimes conflicting, subcultures each shaped by functional roles, professional identities, geographic locations, or historical legacies. Subcultures may reinforce or resist central cultural narratives, creating pockets of coherence that exist alongside broader organizational inconsistency. This view aligns with work by scholars such as Van Maanen and Barley (1985), who showed how occupational communities form distinct interpretive schemas. Differentiation highlights the political, negotiated, and contested nature of culture, and is best examined through qualitative or mixed-methods approaches that can capture these subtleties.

The fragmentation perspective goes further by suggesting that cultural coherence may be more illusion than reality. Rather than cohesive values or identifiable subcultures, culture is characterized by ambiguity, contradiction, and flux. From this angle, cultural manifestations are fluid and episodic, shaped by situational contingencies and transient meanings. This perspective challenges the very notion of cultural "management" and instead foregrounds uncertainty, temporal shifts, and symbolic ambiguity as intrinsic elements of organizational life (Feldman & Pentland, 2003). Ethnographic and interpretive methods are particularly well-suited to this approach, as they allow researchers to capture fragmented and shifting cultural narratives over time.

Given the objective of this study to investigate how organizational culture fosters innovation and how this relationship is affected by remote work the integration perspective is most appropriate. The focus here is on the extent to which shared values and behavioral norms, conceptualized through the Competing Values Framework (CVF), predict innovation outcomes. By treating organizational culture as a cohesive construct that can be meaningfully measured, compared, and modeled across organizations, this perspective aligns well with the study's quantitative methodology and cross-sectional design.

Moreover, the integration lens provides a strong theoretical foundation for evaluating how remote work might moderate the relationship between cultural traits and innovation. By assuming a relatively stable cultural framework, the analysis can isolate how spatial disconnection introduced through remote work amplifies or dampens the cultural mechanisms that traditionally enable innovation. This allows for more focused testing of hypotheses and contributes to theory-building on the resilience or vulnerability of cohesive cultural systems under conditions of physical dispersion.

Ultimately, while the integration perspective may not capture all the subtleties and contradictions of cultural dynamics, it provides a pragmatic and theoretically sound foundation for examining culture as an innovation-enabling system. It also offers compatibility with the CVF and supports the study's goal of generating actionable insights for managers navigating cultural transformation in increasingly digital work environments.

2.4 Organizational Culture Models

Organizational culture has been studied through multiple models that explain how shared values and assumptions shape behavior and performance. The Competing Values Framework (CVF) is widely used, classifying culture into clan, adhocracy, market, and hierarchy types, with adhocracy shown to be most conducive to innovation due to its emphasis on flexibility and creativity (Hartnell et al., 2011). Schein's model adds a three-layered structure artifacts, espoused values, and basic assumptions that helps explain how culture operates beneath the surface (Schein, 2010). Denison's model links traits like adaptability and involvement to performance outcomes, highlighting adaptability as essential for innovation in uncertain environments (Denison et al., 2004). Each model provides a unique lens for understanding how organizational culture supports or inhibits innovation. These frameworks are particularly relevant in remote work contexts, where traditional culture transmission mechanisms may be

disrupted. This study draws on these models to examine how remote work interacts with cultural traits to influence innovation outcomes.

2.4.1 Harrison's Culture Model

Harrison (1972, 1987) was one of the first to systematically describe organizational culture. His model takes the internal angle presuming that culture is created "from within" by the individual behavior of people within a workplace. Harrison's model focuses on the degree of centralization and formalization of decision-making processes to determine organizational controls.

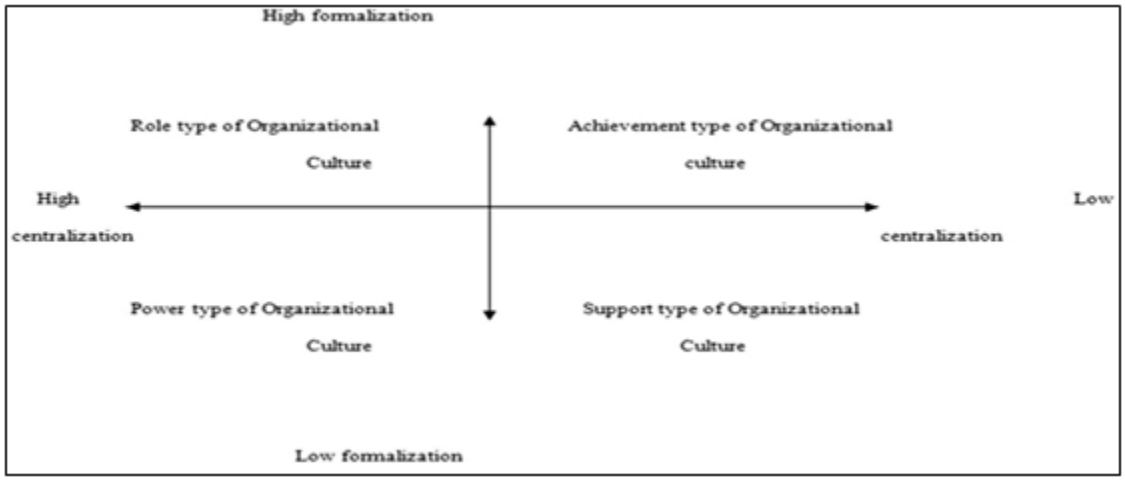


Figure 1: Harisson's culture model

Harrison's framework defines organizational cultures along two dimensions: centralization (the extent to which decision-making is concentrated at the top of the organization) and formalization (the degree to which behavior is governed by rules and procedures). These dimensions generate four different cultural types:

1. Power-Oriented Culture: A culture where power is centralized and decision-making occurs at the top. Leadership is usually autocratic, and the organization relies on the drive of one dominant figure to move it forward. This culture may enhance efficiency but stifle innovation and adaptability in remote work due to limited autonomy (Harrison, 1987).

2. Role-Oriented Culture: A formalized structure with defined roles, responsibilities, and processes guiding how things operate within the company. It is all about stability and predictability. Although this culture may facilitate a highly operationally-efficient organization, remote work may hinder its success since it restricts direct oversight as well as formal, structured communication (Cameron & Quinn, 2011).

3. Task-oriented: Has a culture of accomplishing tasks; decisions are more decentralized. Then teams are configured around problem-solving and performance, not rigid hierarchies. Research shows that this culture complements remote work very well, promoting flexibility, collaboration, and innovation (Denison & Mishra, 1995).

4. Support-Oriented Culture: Emphasizes interpersonal relationships, employee well-being, and participatory decision-making. Trust and collaboration form the foundation of this culture. Studies indicate that remote work can challenge the development of trust and cohesion in such cultures due to reduced face-to-face interaction (Grant, Wallace, & Spurgeon, 2013).

Given the increasing prevalence of remote work, it is crucial to explore how each of these cultural traits adapts to virtual settings. The subsequent sections examine additional organizational culture models before selecting the most relevant framework for analyzing the impacts of remote work on innovation-driven cultures.

2.4.2 Culture Model of Deal and Kennedy

Deal and Kennedy's (2000) model offers a distinct perspective on organizational culture by emphasizing the influence of external environmental factors. Unlike Harrison, who focuses on internal power dynamics and decision-making processes, Deal and Kennedy argue that an organization's culture is primarily shaped by its external context, particularly the technological landscape, market competition, regulatory frameworks, and broader environmental uncertainty. These external forces create a unique operating climate for each organization, within which culture evolves as a strategic response to external challenges and opportunities.

The model places particular emphasis on the decision-making context, positing that organizational culture is molded by how decisions are made in response to external stimuli and the feedback loop created by environmental outcomes. Culture, in this view, becomes a mechanism for managing uncertainty and aligning organizational behaviors with market expectations.

Deal and Kennedy conceptualize organizational culture using two analytical dimensions: (1) the speed of feedback (how quickly organizations receive performance-related feedback), and (2) the degree of risk involved in organizational activities. These dimensions form the basis for a two-axis matrix, which yields four distinct cultural archetypes:

- Work Hard/Play Hard Culture: Characterized by low risk and fast feedback (e.g., sales-oriented environments).
- Tough Guy/Macho Culture: Marked by high risk and rapid feedback (e.g., investment banking, sports).
- Process Culture: Defined by low risk and slow feedback (e.g., bureaucracy-heavy institutions).
- Bet-Your-Company Culture: High risk combined with delayed feedback (e.g., aerospace, oil exploration)Each quadrant reflects a different organizational orientation toward risk, control, and adaptability, offering a diagnostic tool for understanding how culture supports or constrains performance in different environments (see Figure 2

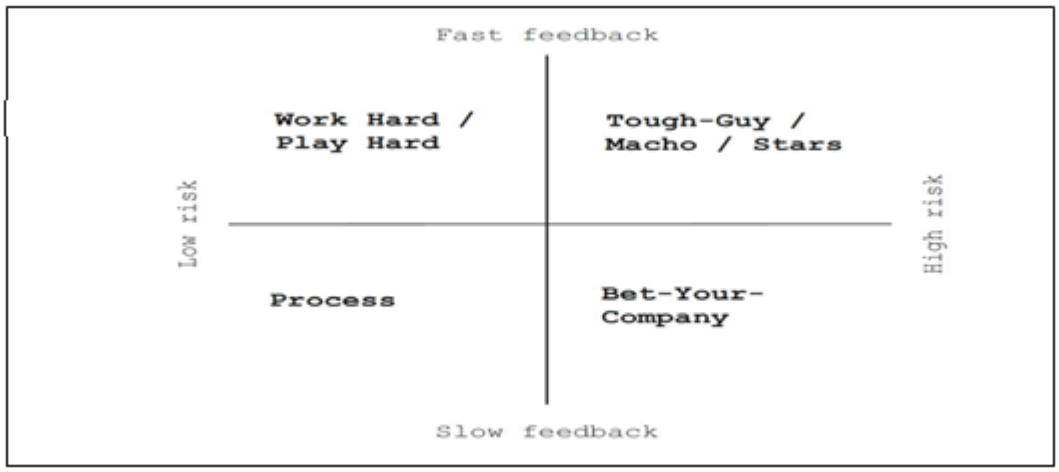


Figure 2: Cultural model of Deal and Kennedy

Deal and Kennedy's cultural typology remains influential in understanding how organizations respond to external pressures by aligning internal behaviors with strategic risk-taking and information processing demands. The Process Culture, characterized by low risk and slow feedback cycles, is typically associated with highly bureaucratic environments where standardized procedures, formal rules, and historical performance guide decision-making (Deal & Kennedy, 1982). In such settings, innovation is often constrained by procedural rigidity, with employees discouraged from deviating from established norms. This risk-averse cultural climate, while efficient for ensuring compliance and stability, tends to hinder creativity and adaptability (Schneider, 1999; Elenkov & Manev, 2020).

Conversely, the Work Hard/Play Hard Culture emerges in low-risk, fast-feedback environments. These organizations thrive on high energy, optimism, and collective motivation. Success is often attributed to persistent effort and a team-based performance ethos, rather than individual heroism (Deal & Kennedy, 1982). This cultural archetype is particularly prevalent in industries such as retail, hospitality, telecommunications, and customer service, where high-frequency interactions and frontline engagement demand enthusiasm, short-term goal orientation, and interpersonal synergy (Martins & Terblanche, 2003; De Vries, 2022).

The Tough Guy/Macho (or Stars) Culture occupies the high-risk, fast-feedback quadrant and is characterized by aggressiveness, individualism, and a performance-driven ethos. Employees in such organizations are often rewarded for bold decision-making, risk tolerance, and measurable short-term results. While this culture can fuel innovation through ambition and autonomy, it also produces high levels of stress, internal competition, and turnover, especially in sectors like investment banking, advertising, entertainment, and high-performance sports (Khan, Woods, & Anaza, 2021; Wang et al., 2023). The emphasis on winning at all costs creates a volatile work atmosphere where failure is stigmatized and collaboration may be undermined.

Bet-your-company culture involves making high-risk decisions with slow feedback. This is the tradition in capital-intensive industries like aerospace, pharmaceuticals and oil exploration, when strategic decisions might take years to bear fruit. Organizations of this type place a premium on long-range planning and deliberate risk-taking, since long-range results can be decisive for survival or failure (Schein, 2010).

2.4.3 Schneider's Culture Model

Schneider (1999) attempted to define a universally accepted framework of organizational culture by bridging differences between Harrison's (1972, 1987) and Deal and Kennedy's (1982) approaches. If Harrison emphasizes decision-making structures, and Deal and Kennedy examines influences on decisions, Schneider offers an examination of the cognitive processes that underpin organizational choices. He proposes a model in which organizational cultures fall along two axes: possibility vs. actuality and personal vs. impersonal. This approach allows for a deeper understanding of how organizational priorities shape leadership, innovation, and employee engagement (Schneider, 1999; Martins & Terblanche, 2003).

By integrating these models, organizations can assess how remote work influences their cultural framework, particularly regarding innovation, collaboration, and risk-taking. As remote work challenges traditional feedback loops and decision-making structures, understanding these cultural models is crucial for sustaining productivity and organizational cohesion(Howard-Grenville, 2020).

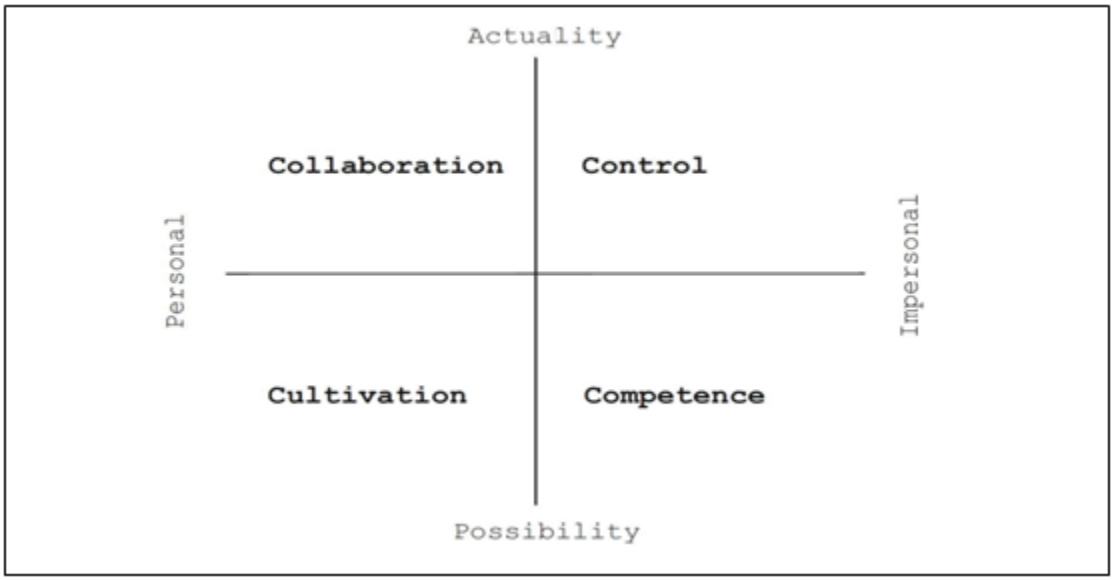


Figure 3: Schneider's Culture Model

The cultivation culture has a strong conviction on organizations success that has embedded in the blood of all participants. In this culture, the higher purpose mobilizes employees in a way that cultivates intrinsic motivation and unyielding commitment. Research has shown that in organizations with a cultivation culture, the individual values of employees are in close alignment with the corporate values, resulting in greater employee engagement and innovation (Schein, 2017; Cameron & Quinn, 2011).

A collaborative culture is built on a foundation of deep belonging within the community. It is exhibiting an inclusive environment where employees are invested and supported in execution, putting what is best for the team above all. This environment promotes trust, open communication, and mutual respect, which are vital elements in creating a culture of innovation and knowledge sharing (Edmondson, 1999; Gelfand et al., 2017). Organizations that promote collaboration are generally more adaptable to remote work due to the social and professional integration of employees despite the physical separation of distance (Grant, 2013).

The control culture prioritizes objectivity, stability, and order, with decision-making processes grounded in empirical data and rational analysis. Emotional detachment from decision-making ensures predictability, making this culture particularly prevalent in industries requiring regulatory compliance and risk mitigation (Weber, 1947; O'Reilly et al., 2014). While control cultures may struggle with the flexibility demanded by remote work, digital transformation and structured performance monitoring can facilitate adaptation (Sull et al., 2020).

A competence culture thrives on a relentless pursuit of excellence, fostering an environment where individuals seek challenges and continuous improvement. Knowledge acquisition and innovation are paramount, with organizations striving to provide superior products, services, or technologies (Barney, 1986; Nonaka & Takeuchi, 1995). While formal procedures are acknowledged, they are only upheld if they support goal achievement. In remote work environments, competence cultures benefit from decentralized decision-making, empowering employees to excel independently while leveraging digital collaboration tools (Choudhury, 2020).

2.4.4 Cultural Model of Cameron and Quinn

The cultural model of Cameron and Quinn's (2006) is pinpointed on the Competing Values Framework which was established first by Quinn and Rohrbaugh (1983). Unlike earlier models that analyze cultures along a single continuum, CVF introduces two fundamental axes: flexibility vs. stability and internal focus vs. external focus. These axes highlight competing values that organizations balance to function effectively.

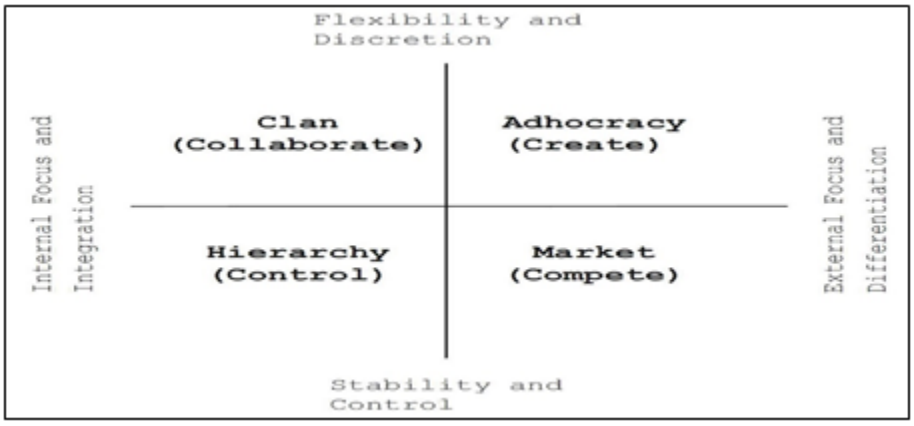


Figure 4: Cultural Model of Cameron and Quinn

The CVF classifies organizational cultures into four quadrants, each representing a distinct cultural archetype:

Clan Culture (Flexible, Internal Focus): This culture is characterized by collaboration, shared values, and a strong sense of community. Organizations with a clan culture emphasize teamwork, mentorship, and employee development. Leadership is often

seen as facilitative and supportive. Research suggests that clan cultures are particularly effective in fostering innovation and employee engagement (Hartnell, Ou, & Kinicki, 2011).

Adhocracy Culture (Flexible, External Focus): Organizations with an adhocracy culture prioritize innovation, adaptability, and risk-taking. They thrive in dynamic environments that demand continuous change and creativity. Decision-making is decentralized, allowing for experimentation and rapid responses to market demands. Studies have shown that adhocracy cultures are strongly linked to organizational agility and entrepreneurial success (Cameron & Quinn, 2011).

Hierarchy Culture (Stable, Internal Focus): This culture values structure, efficiency, and standardized procedures. Organizations with a hierarchical culture emphasize control mechanisms, formal policies, and accountability. Stability is a key goal, and leadership is often based on authority and rule enforcement. While this culture ensures operational consistency, excessive bureaucracy can hinder innovation (Gregory et al., 2009).

Market Culture (Stable, External Focus): A market culture is results-oriented, emphasizing competition, goal achievement, and external positioning. Organizations with this culture prioritize performance metrics, profitability, and customer satisfaction. Leadership is typically driven by a focus on efficiency and strategic positioning. Research indicates that market cultures can drive high performance, but they may also create stress due to their highly competitive nature (Zammuto & Krakower, 1991).

The order in which an organization is likely to undergo and experience cultural changes is predictable based on maturity, as suggested in Figure 5 (Cameron and Quinn, 2011).

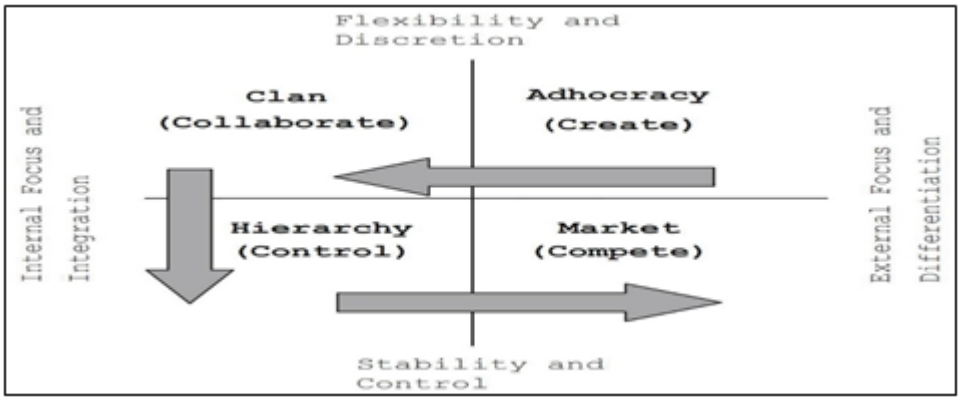


Figure 5: Cameron and Quinn Culture change over time

However, what makes Cameron and Quinn's model very interesting for this thesis work is the fact that they have created a widely recognized and statistically validated instrument to diagnose organizational culture. One of the main components of this study is the "Organizational Culture Assessment Instrument" (OCAI), which is designed based on the Competing Values Framework (Cameron and Quinn, 2006).

2.4.5 Schein's Organizational Culture Model

Schein's model of organizational culture (Schein, 1992; Schein & Schein, 2016) offers a compounding structure for how organizational culture can be observed and categorized into three different levels based on their "visibility" in the organization. At the deepest level lie the core organizational values, which, though not directly observable, serve as fundamental guiding principles shaping decision-making, behavior, and strategic direction. These values reflect the collective beliefs, philosophies, and assumptions that define the essence of an organization's culture.

The intermediate layer consists of organizational norms, which represent implicit social expectations and behavioral standards. Norms build upon the underlying values and become evident through the shared expectations employees have regarding

conduct, communication, and workplace dynamics. Unlike values, which are abstract, norms manifest in everyday interactions, shaping how employees collaborate and align their behavior with organizational objectives.

At the most visible level are organizational artifacts, tangible and observable expressions of culture. Artifacts include language, workplace design, symbols, rituals, and formalized processes, offering external insights into an organization's culture. These visible aspects reinforce deeper cultural elements and provide a means through which employees and external stakeholders can interpret an organization's identity.

Despite being one of the earliest organizational culture frameworks, Schein's model remains relevant in contemporary research, particularly concerning its impact on innovation. Hogan and Coote (2014) conducted an empirical study demonstrating how each layer of organizational culture influences innovative behaviors. Their findings indicate that core values foster a mindset conducive to innovation, norms establish an environment that encourages knowledge sharing and experimentation, and artifacts serve as reinforcing mechanisms that support creative thinking and risk-taking.

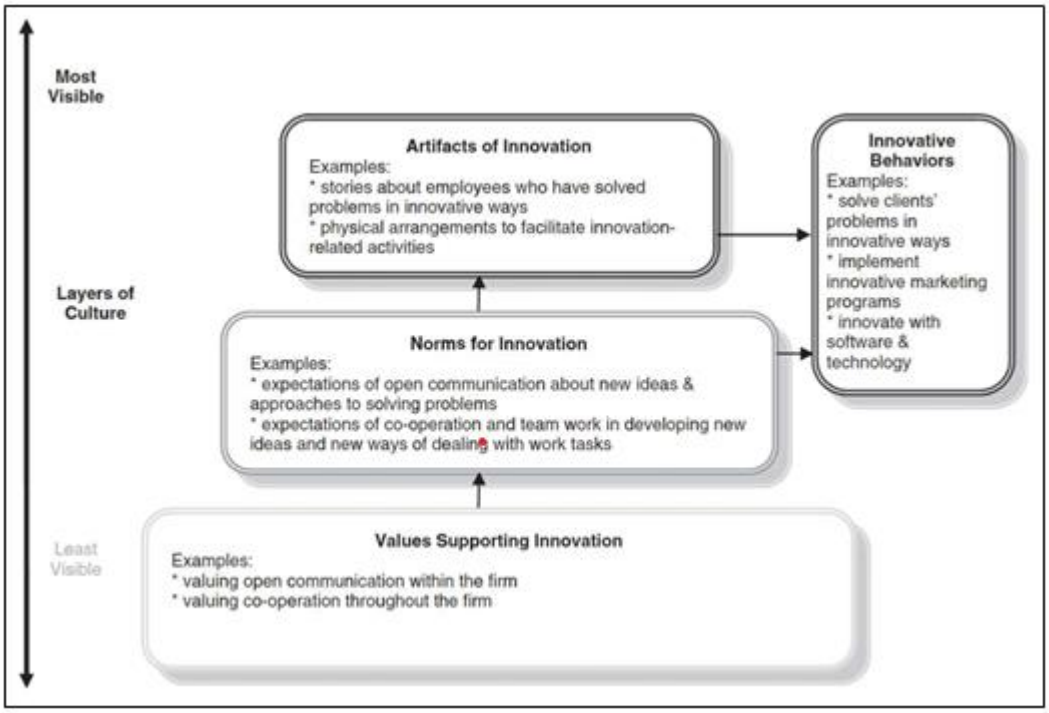


Figure 6: Cultural Model of Shein versus Innovation

Schein's model can add depth to a study by giving an insight into far more subtle cultural aspects but we need much targeted participants and skilled researchers in order to translate those meanings that are difficult to get from a questionnaire.

2.5 Choice of Organizational Culture Model

In examining the influence of organizational culture on innovation especially within remote work settings selecting a theoretically robust and empirically validated framework is imperative. This study adopts the Competing Values Framework (CVF), not only due to its longstanding acceptance in organizational research but also for its flexibility in accounting for competing cultural logics. Originally developed by Quinn and Rohrbaugh (1983), the CVF provides a comprehensive typology of organizational culture by evaluating organizations across three key dimensions: internal versus external focus, flexibility versus control, and means versus ends orientation. This triadic schema positions organizations within four archetypal cultures developmental

(adhocracy), group (clan), hierarchical, and rational (market) each reflecting a unique constellation of values, practices, and innovation potentials.

A critical strength of the CVF lies in its recognition that organizations are not monolithic in their cultural orientation. Instead, they are composed of multiple, and sometimes contradictory, values that coexist and influence behavior in complex ways. This makes CVF particularly well-suited to analyze innovation processes in organizations navigating hybrid or remote work settings, where traditional boundaries and practices are in flux (Shanker et al., 2022). The framework also enables a balanced evaluation of both flexibility-oriented traits (e.g., creativity, collaboration) and control-oriented traits (e.g., stability, goal alignment), acknowledging that effective innovation often emerges at the intersection of order and agility.

To further extend the analytical depth of this study, the adaptation proposed by Büschgens, Bausch, and Balkin (2013) is employed. Their integrative model bridges CVF with Control Theory (Ouchi, 1980), offering a nuanced perspective on how organizational culture fosters or hinders innovation. Control Theory categorizes governance mechanisms into three types: market control, which relies on external competition and outcomes; bureaucratic control, which emphasizes formal rules and procedures; and clan control, which is rooted in shared norms, trust, and social cohesion. Büschgens et al. argue persuasively that clan-based mechanisms, closely aligned with group culture in CVF, are particularly conducive to innovation because they enable coordination and commitment in contexts where outcomes are ambiguous, and creative behavior is hard to monitor.

This synthesis is highly relevant in today's organizational landscape. As firms scale and shift toward more decentralized and remote structures, top-down oversight becomes less effective. In such settings, innovation must be embedded within a strong, values-based culture that employees internalize. This aligns with recent findings from Pérez Valls et al. (2021), who suggest that organizations with high levels of shared meaning and participative governance are more likely to sustain innovation performance in volatile environments.

Moreover, the CVF-Control Theory hybrid allows this study to analyze cultural traits not only as static categories but as dynamic levers of innovation, especially under remote work conditions. For example, while hierarchical cultures are traditionally seen as control-driven and innovation-inhibiting, their potential for enabling process innovation through role clarity and structure becomes more evident when viewed through the lens of bureaucratic control mechanisms in remote teams (Contreras et al., 2022).

Thus, by anchoring its cultural analysis in this integrated model, this study not only adheres to rigorous theoretical standards but also positions itself to contribute meaningfully to contemporary debates on culture, innovation, and remote work. The CVF, extended through Control Theory and contextualized within remote environments, offers a powerful

framework for understanding how organizations can align internal dynamics with innovation objectives even in an increasingly digital and dispersed world.

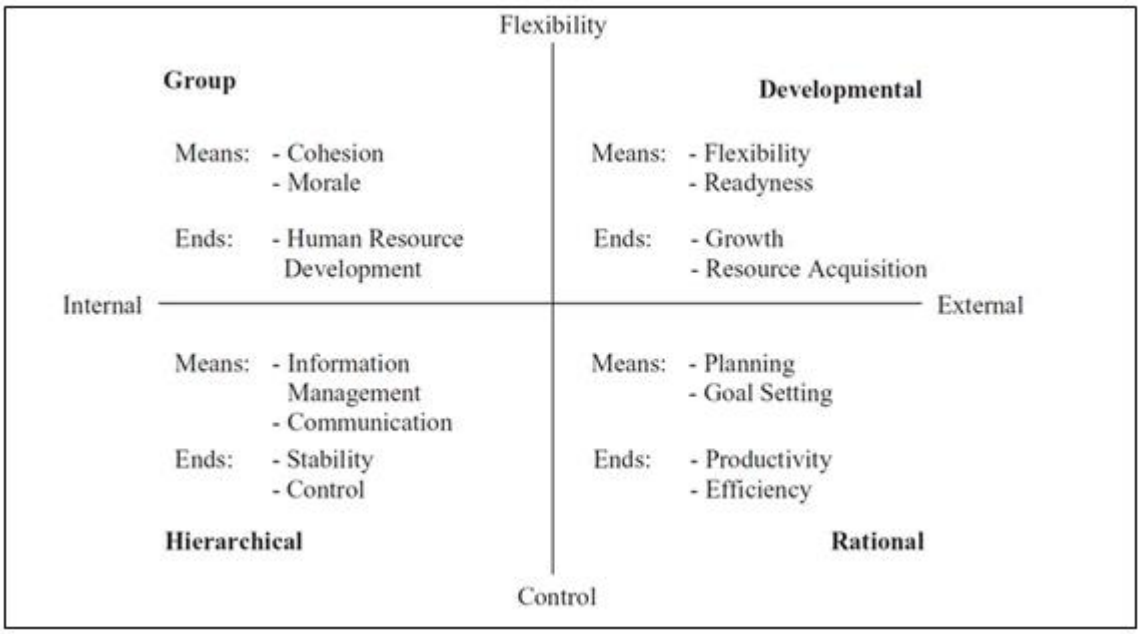


Figure 7 : CVF by Büschgens et al. (2013)

The four quadrants identified in the Figure 7 talk about different values or features of the organizational culture. Connecting the Competing Values Framework (CVF) to innovation outcomes through examining the impact of such characteristics on innovation. Here's a summary of the key traits:

2.6: Hypothesis Development

2.6.1 Developmental Culture Trait

The Developmental culture, situated within the external-flexibility quadrant of the Competing Values Framework (CVF), is characterized by its proactive orientation toward change, openness to new opportunities, and emphasis on individual growth and organizational transformation (Cameron & Quinn, 2011). Organizations with a developmental culture tend to value innovation as a continuous process rather than a discrete event, embedding adaptability, experimentation, and entrepreneurial thinking into their operational DNA.

This culture type supports innovation through multiple reinforcing mechanisms. First, it promotes risk tolerance, allowing employees to explore novel ideas without fear of penalization an essential precondition for both radical and incremental innovation. Second, it fosters continuous learning and creative thinking, often institutionalized through ideation programs, innovation labs, and professional development initiatives. Third, it encourages boundary-spanning behavior, motivating employees to scan the external environment for emerging trends, technologies, or user needs a process critical for opportunity recognition and innovation sourcing (Shanker, Bhanot, & Sharma, 2022).

Recent empirical research continues to affirm the innovation-driving potential of developmental cultures. For instance, Al-Mamary et al. (2022) found that organizations with high developmental orientation experienced significantly greater success in deploying digital innovations during post-COVID restructuring, due to their inherent agility and responsiveness. Likewise, Srivastava and Agrawal (2021) emphasized that developmental cultures enable faster adaptation to market shocks, especially in dynamic technology sectors.

However, developmental cultures also depend heavily on interpersonal interaction, informal collaboration, and serendipitous idea exchange factors that may be constrained in remote work environments. Without face-to-face engagement and spontaneous dialogues, the creative synergies and risk-friendly experimentation common to developmental cultures may

become fragmented or underutilized. This concern has been raised by recent studies such as Bavafa, Hitt, and Weil (2023), who observed that the lack of proximity in remote teams can reduce innovation velocity unless specific enabling mechanisms like digital brainstorming platforms or innovation champions are implemented.

Therefore, while developmental culture traits are generally strong predictors of innovation, their effectiveness may be challenged under remote work conditions that limit spontaneous interaction and collective experimentation. Accordingly, this study hypothesizes:

H1: The developmental cultural characteristic has a positive impact on innovation

2.6.2 Group Culture Trait

Group culture trait is an internal orientation that emphasizes the development of human resources, strengthening the employee capitalization. And the flexibility that comes with this trait encourages an ability to produce and support innovations as long as they are aligned with the organization's people-driven focus. Values related to psychological safety in the area of innovation, one of the other important values is organizational supportiveness (Abbey & Dickson, 1983; Belassi, Kondra, & Tukel, 2007) or organizational encouragement (Amabile et al., 1996): their common concept is psychological safety. But this trait is also prone to groupthink. It was shown that group culture trait was positively correlated with innovation (Büschgens, Bausch, & Balkin, 2013). In order to test this correlation, we propose the following hypothesis:

H2: The cultural trait of the group facilitates innovation.

2.6.3 Hierarchical Culture Trait

The hierarchical culture trait is control-oriented, with stability as its primary goal. This culture relies on structured rules and procedures, reducing ambiguity and enhancing employee satisfaction. However, its rigid nature can be detrimental to innovation. Centralization, another relevant aspect of this culture, has been identified as a limiting factor for innovation (Dewar & Dutton, 1986). Büschgens et al. (2013) revealed that the hierarchical culture trait negatively correlated with innovation. In order to investigate this relationship, this brings us to another hypothesis:

H3: The negative impact of hierarchical cultural trait on innovation

2.6.4 Rational Culture Trait

Rational (Externally Oriented, Efficiency-Centered Culture Trait). This efficiency-oriented practice supports incremental advancements and operational ingenuity, whereas an outward-facing disposition drives the adoption of novel concepts and novel opportunities. But as a control-oriented trait, it also encourages following procedures, which could discourage experimentation and creativity. Another important feature of this culture is a result orientation (Belassi, Kondra, & Tukel, 2007). Büschgens, Bausch, & Balkin (2013) reported a relationship in the sense that an innovative culture had a significant positive correlation with the rational cultural trait. We then propose the following hypothesis to validate this finding:

H4: Rational cultural trait has a positive impact on innovation.

2.6.5 Research Model/Framework

By The disruptive rise of remote work particularly in response to the global COVID-19 pandemic has fundamentally challenged conventional theories of organizational culture and innovation. While research over the last two decades has emphasized the importance of cultural alignment in fostering innovation (Cameron & Quinn, 2011; Büschgens, Bausch, & Balkin, 2013), more recent scholarship suggests that digital and spatial disconnection can alter the way cultural traits function in practice (Wang et al., 2021; Contreras et al., 2022). The role of remote work, therefore, warrants theoretical investigation not simply as a new variable in organizational design, but as a potential moderator that recalibrates how cultural values are enacted and experienced.

The Competing Values Framework (CVF) provides a robust lens through which to assess these dynamics. The four key cultural dimensions developmental, group, hierarchical, and rational each represent distinct internal mechanisms that support

innovation. However, the extent to which these mechanisms remain effective in remote contexts is uncertain. Emerging evidence points to both enabling and constraining effects, largely depending on how remote work is structured, supported, and led (Spataro & Bloisi, 2023; Molino et al., 2020).

For example, in developmental cultures, innovation thrives on exploration, risk-taking, and continuous learning. These traits often emerge from unstructured exchanges, face-to-face creativity sessions, and physical cues of psychological safety. In remote work, however, such unplanned interactions are significantly reduced. Recent research suggests that without deliberate mechanisms for asynchronous ideation or virtual experimentation, the innovative strength of developmental cultures may be compromised (Maruping et al., 2021).

Similarly, group cultures depend heavily on collaboration, mutual trust, and shared commitment. While digital tools facilitate communication, they often fall short in replicating the informal bonds and emotional cues that drive collective innovation. Studies such as Wang et al. (2021) and Molino et al. (2020) highlight how prolonged remote work can weaken group cohesion and trust, making it harder to maintain the psychological safety required for open innovation.

Hierarchical cultures, often considered antagonistic to innovation, are assumed to suffer further in remote environments due to increased rigidity and reduced real-time managerial oversight. However, recent work (Contreras et al., 2022) suggests a more nuanced picture, remote settings may in fact increase the utility of hierarchical processes in providing clarity, structure, and accountability in otherwise ambiguous virtual workflows.

Finally, rational cultures, centered on outcomes, efficiency, and strategic alignment might initially appear resilient under remote conditions. Yet, studies have shown that remote work can amplify pressures to deliver without providing sufficient flexibility or cross-functional collaboration, thereby inhibiting breakthrough innovation (Choudhury et al., 2023).

Drawing on the theoretical frameworks outlined in the preceding sections and grounded in prior empirical evidence, the following hypotheses are formulated to examine whether remote work acts as a negative moderator in the established relationships between organizational culture and innovation. Specifically, the study posits that the shift toward digital and distributed work environments may attenuate the positive influence of cultural traits on innovation. Accordingly, the following hypotheses are proposed:

- *H5: Remote work negatively moderates the relationship between Developmental Culture and innovation.*
- *H6: Remote work negatively moderates the relationship between Group Culture and innovation.*
- *H7: Remote work negatively moderates the relationship between Hierarchical Culture and innovation.*
- *H8: Remote work negatively moderates the relationship between Rational Culture and innovation.*

These hypotheses extend the research model by incorporating remote work as a contingent variable, thereby advancing beyond traditional models that treat culture–innovation relationships as context-independent. By integrating remote work into the analysis, the study aims to uncover how the digital transformation of workspaces potentially disrupts or reshapes the cultural mechanisms that facilitate organizational innovation.

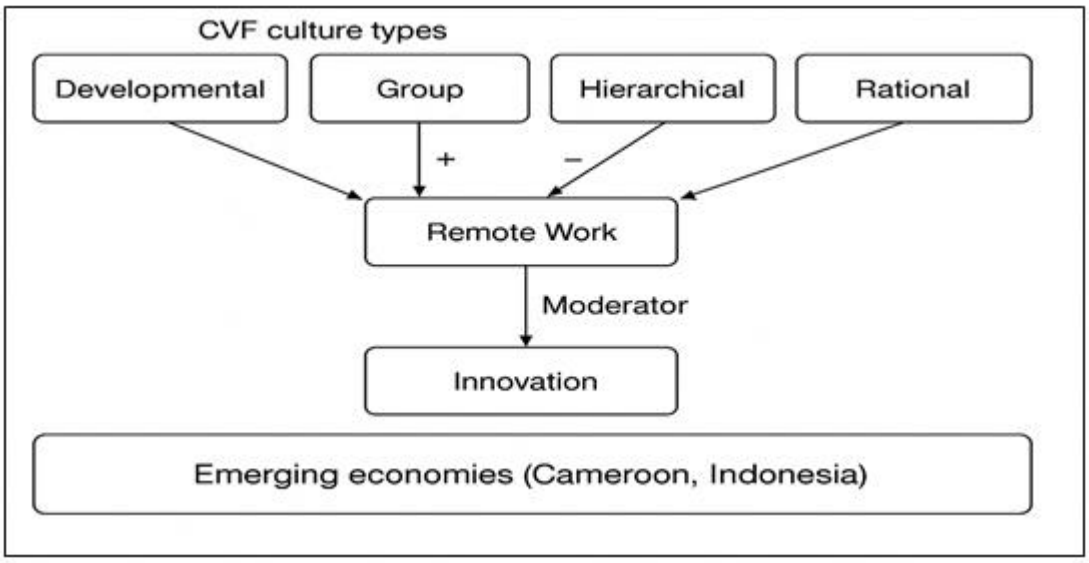


Figure 8: Research Model

2.7 National Context Overview: Indonesia and Cameroon

Understanding the relationship between organizational culture, remote work, and innovation in emerging economies requires close attention to the contextual forces that shape each country's innovation system. According to Lundvall (1992) and Edquist (2005), national innovation systems are constituted by the institutions, policies, networks, and cultural norms that influence how knowledge is produced, shared, and transformed into new products and services. In this regard, both Cameroon and Indonesia present distinct innovation environments that merit focused scholarly attention.

Indonesia, as a rapidly advancing middle-income economy, has demonstrated increasing government investment in digital infrastructure, policy-driven innovation (e.g., the "Making Indonesia 4.0" roadmap), and startup ecosystems supported by public–private partnerships. These factors position Indonesia as an evolving, state-supported innovation system where formal structures, regulatory frameworks, and macroeconomic stability play a central role in shaping how remote work and digital transformation influence cultural dynamics within firms (OECD, 2022).

Cameroon, by contrast, represents a more informal and bottom-up model of innovation. While formal state policy support remains limited, the proliferation of small and medium-sized enterprises (SMEs), entrepreneurial clusters, and youth-led digital initiatives signal a grassroots approach to knowledge generation and organizational innovation. However, Cameroon also faces challenges including limited broadband access, infrastructural gaps, and underdeveloped institutional mechanisms to support sustainable innovation. These challenges often require firms to rely on social capital, informal trust networks, and adaptive cultural strategies to remain competitive (George et al., 2016).

Despite growing attention to emerging markets in management research, much of the academic discourse remains concentrated in Western or high-income contexts. Indonesia is beginning to gain traction in global innovation studies, but Cameroon remains markedly underrepresented in scholarly literature. This study addresses this gap by drawing empirical insights from both countries, thereby contributing to a more inclusive understanding of how organizational culture and remote work interact to shape innovation in diverse socioeconomic and institutional settings.

By situating the analysis within these two distinct innovation systems, this research not only captures the heterogeneity of emerging economies but also responds to calls for more contextually embedded theories of management and organizational behavior. In doing so, it contributes to the decolonization of organizational studies by foregrounding empirical realities and theoretical constructs from underrepresented regions.

2.7.1 Overview of Indonesia

Indonesia, as the largest economy in Southeast Asia, exhibited economic resilience in 2024, with a Gross Domestic Product (GDP) growth rate of 5.03%, maintaining a trajectory consistent with the previous year (BPS Indonesia, 2025). This economic expansion was primarily driven by strong domestic consumption and substantial investment inflows. The labor market demonstrated positive developments, as the national unemployment rate declined from 5.3% to 4.9% in 2024, while the labor force participation rate increased to 70.6% (World Bank, 2024). However, despite these advancements, the country faces ongoing challenges, including external economic uncertainties and the necessity for sustained infrastructure development to support long-term growth (Reuters, 2025).

Indonesia's technology sector is undergoing rapid expansion, positioning itself as a critical driver of economic transformation. The nation's digital economy is projected to experience substantial growth, increasing nearly fivefold from $70 million in 2021 to an estimated $330 million by 2030 (Ciptadana, 2024). This expansion is largely facilitated by a young and digitally engaged population, as well as rising smartphone penetration, which has established Indonesia as the largest digital economy market in Southeast Asia (Suryacipta, 2024).

Government initiatives, including the Digital Indonesia 2024 strategy, highlight a strong national commitment to digital transformation by fostering an environment conducive to technological advancement and investment. Moreover, the Information and Communication Technology (ICT) market, valued at over $40 billion in 2023, is anticipated to grow at a compound annual growth rate (CAGR) exceeding 16% between 2023 and 2028, potentially reaching more than $89 billion by 2028 (GlobeNewswire, 2024). Key drivers of this growth include the expansion of e-commerce, financial technology (fintech) services, data center developments, and the deployment of 5G networks. Collectively, these factors are reshaping Indonesia's digital landscape and reinforcing its position as a leading technological hub in the region.

2.7.2 Overview of Cameroon

Cameroon, located in Central Africa, shares borders with Nigeria, Chad, the Central African Republic, Equatorial Guinea, Gabon, and the Republic of the Congo. Covering an area of approximately 475,442 square kilometers, the country is often referred to as "Africa in miniature" due to its diverse geography, which includes coastal plains, mountains, rainforests, and savannahs. Cameroon has a population of about 28.6 million people as of 2024, with a rich cultural heritage comprising over 250 ethnic groups and languages. The country is officially bilingual, with French and English as its official languages, though indigenous languages such as Fulfulde, Keyang, Ewondo, and Duala are widely spoken.

Economically, Cameroon experienced a slight deceleration in growth in 2023, with its real Gross Domestic Product (GDP) expanding by 3.3%, a decrease from the 3.6% growth recorded in 2022 (World Bank, 2024). However, the country's economic outlook remains positive, with projections indicating that GDP growth will reach approximately 4.2% in 2025 (Trading Economics, 2024). This anticipated expansion is driven by key sectors such as agriculture, forestry, services, mining, and natural gas (Coface, 2024). The development of natural gas exports has played a crucial role in offsetting declines in the oil sector, with production reaching 2,756.352 million cubic meters in December 2023, up from 2,400.000 million cubic meters in December 2022 (CEIC Data, 2024).

Technologically speaking, Cameroon is gradually establishing itself as an emerging player. The sector is increasingly contributing to economic development, with small and medium-sized enterprises (SMEs) driving digital transformation. The country's IT services market is expected to grow steadily between 2025 and 2031, fueled by rising demand for digital solutions in business operations such as human resources, finance, and supply chain management (Coface, 2024). Additionally, the system infrastructure software segment is projected to generate revenues of approximately $29.93 million in 2025, reflecting an annual growth rate of 3.55% (Trading Economics, 2024). These advancements highlight the growing significance of technology in Cameroon's economic landscape, reinforcing its potential as a key pillar of future development.

2.7.3 Rationale for Case Selection

The decision to investigate Indonesia and Cameroon as focal contexts for this study is grounded in both their shared classification as emerging economies and their unique socio-economic, technological, and institutional landscapes. Although geographically distant and culturally distinct, both countries are undergoing rapid digital transformations and experiencing a growing prevalence of remote work, especially in their expanding technology sectors. Despite these parallels, there remains a

significant gap in scholarly research examining how remote work influences organizational culture and innovation within these specific settings.

Indonesia, Southeast Asia's largest digital economy, offers a compelling case of accelerated technological growth supported by strong government policy, increasing foreign investment, and widespread digital infrastructure. Its start-up ecosystem, driven by firms such as Gojek and Tokopedia, demonstrates the potential for large-scale innovation in digitally enabled sectors. Cameroon, in contrast, represents a developing African digital economy where innovation is often driven by small and medium-sized enterprises (SMEs) operating under tighter resource constraints. Although its digital infrastructure is less developed than Indonesia's, Cameroon's entrepreneurial landscape is vibrant, especially in urban hubs like Douala and Yaoundé, where digital inclusion and mobile connectivity are advancing rapidly.

This cross-contextual comparison is not intended to create symmetry between the two nations but to generate rich, differentiated insights. By studying two economically comparable yet structurally diverse countries, this research contributes to a more nuanced understanding of how organizational culture and innovation are shaped by remote work in varied institutional environments. The selection is supported by the following five arguments:

2.7.4 Diverse Digital Infrastructure Levels Enable Comparative Insight

Indonesia and Cameroon represent two different stages of digital infrastructure maturity. Indonesia's more advanced broadband penetration, e-government platforms, and ICT investments provide a reference for digitally mature emerging economies. Cameroon, while making strides in mobile connectivity and digital literacy, still faces infrastructural limitations. Comparing these contexts allows the study to capture how varying levels of technological readiness mediate the cultural and innovative impacts of remote work.

2.7.5 Contrasting Organizational Ecosystems Reveal Innovation Drivers

Indonesia is characterized by a highly structured and increasingly formalized technology sector, with government-backed initiatives such as "Making Indonesia 4.0" promoting innovation ecosystems. In contrast, Cameroon's innovation landscape is heavily reliant on informal networks and SME-led experimentation. Analyzing organizational culture and innovation in both environments enables the identification of how structural formality or informality affects remote collaboration, trust-building, and knowledge sharing.

2.7.6 Underrepresentation in Literature Justifies Academic Focus

Most empirical studies on remote work, culture, and innovation are situated in Western contexts or large emerging markets like China, India, or Brazil. Indonesia has only recently begun to gain attention in international organizational research, while Cameroon remains vastly underrepresented. By focusing on these countries, this study fills a critical gap in the literature and contributes to decolonizing knowledge by producing data-driven insights from the Global South.

2.7.7 Remote Work Policies Reflect Broader Developmental Strategies

Indonesia's government has actively integrated digital transformation into its national development agenda, offering incentives for remote work adoption and digital entrepreneurship. Cameroon, though more constrained, has introduced regulatory frameworks to support digital platforms and remote service delivery, especially in education and health. Investigating how these policies interact with organizational culture provides valuable insights into the role of the state in enabling innovation under remote work conditions.

2.7.8 Cultural Diversity Enhances Generalizability of Findings

Indonesia's collectivist, high-context cultural environment contrasts sharply with Cameroon's multilingual, ethnically diverse, and semi-individualistic work culture. These differences create a fertile ground for exploring how remote work affects interpersonal trust, leadership visibility, and informal communication key components of organizational culture across cultural dimensions. This cultural diversity enriches the study's external validity and enhances the generalizability of its findings to other emerging markets.

2.7.9 Study Distinction

The research conducted by Evripidis Karatsivos and Jeff Nkandu in their master's thesis titled *"The Effects of Remote Work on Organizational Culture and Innovation: A Case of the Technology Sector"* represents a significant scholarly effort to explore the interplay between remote work and cultural dimensions that support innovation. Their study uses the Competing Values Framework (CVF) to examine how specific cultural traits relate to innovation outcomes and how remote work might moderate these relationships, particularly within the context of the technology sector.

While this current research draws inspiration from their conceptual approach and use of CVF, there are critical distinctions in both the design and objectives that differentiate the present study and expand the research frontier in several meaningful ways.

Similarities Between the Studies

1. Conceptual Framework: Both studies use the Competing Values Framework (CVF) to analyze organizational culture and its effect on innovation, focusing on the four primary cultural traits developmental, group, hierarchical, and rational.
2. Research Focus: Each investigates how remote work interacts with organizational culture and innovation an increasingly important topic in the post-pandemic organizational landscape.
3. Sectoral Emphasis: Both studies are anchored in the technology sector, where remote work is highly prevalent, and innovation is both a strategic imperative and a cultural outcome.
4. Quantitative Methodology: Each employs a quantitative research design, with survey-based data collection and hypothesis testing, including the use of established instruments such as OCAI and SOQ.

2.8 How This Study Is Different and Extends the Field

2.8.1 Cross-National, Comparative Design

While Karatsivos and Nkandu focused on a single-country case study, this research adopts a comparative approach by analyzing data from two emerging economies: Indonesia and Cameroon. This cross-national dimension allows for the examination of how remote work influences organizational culture and innovation across different digital infrastructures, socio-economic conditions, and cultural contexts, thereby improving the study's external validity and relevance to broader international management discourse.

2.8.2 Emerging Market Contextualization

The current study specifically aims to fill a gap in literature by focusing on under-researched regions in the Global South. While Karatsivos and Nkandu's research may have been situated in a more developed or homogenized context, this study seeks to contextualize remote work dynamics within emerging economies, providing valuable insights into how these dynamics play out in environments with limited infrastructure, informal work norms, and different institutional logics.

2.8.3 Enhanced Theoretical Integration

Whereas the referenced thesis mainly focuses on CVF, the current research draws further theoretical depth by incorporating Control Theory (Ouchi, 1980) as extended by Büschgens, Bausch, and Balkin (2013). This integration allows for a richer analysis of how cultural mechanisms like clan control interact with remote work practices to support or inhibit innovation, particularly in remote settings where direct supervision and bureaucratic oversight are limited.

2.8.4. Expanded Moderating Variables and Organizational Complexity

While Karatsivos and Nkandu focus on remote work as a single moderating variable, this study goes further by considering additional organizational variables such as team interaction, trust dynamics, and digital infrastructure constraints especially relevant in emerging economies. These additions allow for a more granular understanding of how remote work reshapes organizational culture under complex, non-Western conditions.

2.8.5. Comparative Policy and Managerial Implications

Due to its dual-country focus, this study is uniquely positioned to offer policy-relevant insights and comparative managerial recommendations that are tailored to different stages of economic and digital development. This contrasts with the more generalizable (but potentially less actionable) findings of a single-context case study.

In summary, while this research builds upon the theoretical and methodological foundations laid by Karatsivos and Nkandu, it advances the field in both breadth and depth. By incorporating cross-cultural comparison, emerging market focus, theoretical expansion, and a more nuanced empirical model, this study offers new perspectives on how remote work transforms organizational culture and innovation in technology-driven sectors. These contributions are not only relevant academically but also hold practical value for organizations and policymakers seeking to build adaptive, innovative, and culturally resilient workplaces in a digitally evolving world.

3. Research Methodology And Data

3.1 Research Design

In this study, we seek to analyze the relationship of organizational culture with innovation and the anticipated moderating role of remote work in the technological sector with our focus on emerging economies (Indonesia and Cameroon). To successfully pull through this, we adopted a Quantitative Research Approach, utilizing structural equation modeling (SEM) as the primary analytical technique. This method allows for the assessment of complex relationships between multiple variables, ensuring a robust and comprehensive analysis of the research hypotheses outlined in Chapter 2.4.

Data collection is conducted through a structured questionnaire, designed to capture relevant information on organizational culture, innovation, and remote work dynamics. The responses are then analyzed using a mathematical model that aligns with the research objectives. Statistical tools are applied to validate the hypotheses and interpret the results meaningfully (Ghauri, Grønhaug, & Strange, 2020).

Traditional first-generation multivariate analysis techniques, such as multiple linear regression, have limitations that make them less suitable for this study. These methods require simple model structures and direct observability of all variables, which do not align with the exploratory nature of this research (Sarstedt, Ringle, & Hair, 2021). Given the complexity of the research model presented in Figure 8, many of the variables under investigation are not directly observable. For example, organizational cultural traits are assessed using the Organizational Cultural Assessment Instrument (OCAI) within the Competing Values Framework (CVF) (Cameron & Quinn, 2006).

To escape these obstacles, second-generation analytical methodologies, such as structural equation modeling (SEM), are used. Structural equation modeling (SEM) is suitable for modeling complex relationships among latent variables (constructs) as well as their indicators simultaneously (Sarstedt, Ringle, & Hair, 2021).

3.1.1: Analytical Technique

In this study, Partial Least Squares Structural Equation Modeling (PLS-SEM) was selected as the primary analytical technique due to its suitability for exploratory research, its robustness in handling small sample sizes, and its flexibility in estimating complex models with multiple constructs and indicators. Unlike Covariance-Based SEM (CB-SEM), which is more appropriate for theory confirmation and models requiring strong distributional assumptions, PLS-SEM is ideal for predictive and formative modeling, especially when theoretical development is ongoing or when constructs are not yet well established in the literature (Hair et al., 2022; Sarstedt et al., 2022).

PLS-SEM enables the simultaneous estimation of both the measurement model (i.e., the relationships between observed variables and their underlying latent constructs) and the structural model (i.e., the relationships between latent constructs). This dual capability is particularly valuable in studying complex organizational phenomena such as innovation, remote work, and culture, which are inherently multidimensional and context-specific (Rigdon et al., 2017). Moreover, the method's ability to work with non-normal data and accommodate reflective and formative indicators further reinforces its appropriateness in social science contexts, particularly in emerging economies where sample constraints and contextual variability are common (Hair, Howard, & Nitzl, 2020; Benitez et al., 2020).

In this research, the model is represented using a standard path diagram, where latent constructs are illustrated as circles and indicators as rectangles. Arrows between constructs signify hypothesized relationships based on theory and prior literature. Model estimation and evaluation were conducted using SmartPLS 4.0, following recent guidelines on assessing reliability, convergent validity, discriminant validity, and model fit (Hair et al., 2022; Matthews et al., 2023).

3.1.2 Constructs and Indicators

Drawing from the conceptual framework developed in Chapter 2, the PLS-SEM model includes four second-order cultural constructs derived from the Competing Values Framework (CVF): developmental, group, hierarchical, and rational traits. These constructs represent the underlying cultural dimensions hypothesized to influence innovation within remote work environments.

3.1.3 Developmental Cultural Trait (Adhocracy):

This dimension captures characteristics such as innovation, flexibility, risk-taking, and external orientation. It reflects a forward-looking, entrepreneurial approach to strategy and structure. Indicators were derived from the OCAI (Cameron & Quinn, 2006) and validated through recent cross-cultural studies emphasizing the importance of adaptability and experimentation in innovation-centric organizations (Kautonen et al., 2022; Gürlek & Tuna, 2023).

3.1.4 Group Cultural Trait (Clan Culture) :

This construct represents internal cohesion, participatory decision-making, trust, and an emphasis on human resource development. It reflects the organization's focus on interpersonal relationships and shared values. The OCAI indicators used for this construct are widely supported by empirical studies linking clan culture to employee engagement, communication quality, and innovation climate (Lee & Rasheed, 2021; Nguyen et al., 2022).

3.1.5 Hierarchical Cultural Trait (Hierarchy Culture):

Characterized by formalized procedures, stability, centralized control, and structured communication flows, this construct evaluates the organization's emphasis on order and regulation. While often seen as antithetical to innovation, recent studies suggest that in certain contexts, especially in emerging economies, hierarchical cultures may facilitate incremental innovation through improved coordination and reduced ambiguity (Moldovan et al., 2021; Obembe et al., 2023).

3.1.6 Rational Cultural Trait (Market Culture):

Focusing on performance orientation, goal-setting, and productivity, this construct reflects a competitive and output-driven culture. It is measured using OCAI indicators related to strategic focus, accountability, and market performance. Recent evidence supports its relevance in fast-paced technological environments where efficiency and results are closely tied to innovation performance (Park & Park, 2022; Bulińska-Stangrecka & Bagieńska, 2022).

Each of these constructs is operationalized using reflective indicators aligned with the original OCAI scale, and adapted for cultural and sectoral relevance in the contexts of Indonesia and Cameroon. Confirmatory factor analysis and reliability testing ensured that the constructs retained construct validity and internal consistency across the sample.

Remote Work:

This is a contextual factor that is treated in the present study as a moderating variable in the proposed framework between organizational cultural traits and innovation. Moderators are independent constructs in PLS-SEM that strengthen the linkages between the constructs (Hair, Hult, et al., 2017).Since there is no standard measure of remote work identified in peer literature this paper utilizes Remote Work Intensity (RWI) framework from Karachatzis and Parameshwarappa (2021)... Specifically, they categorize remote work arrangements based on frequency (full-time vs part-time) and distance from the office (in-office, hybrid/flexible work, digital nomadism, satellite offices, work-from-home; Olson, 1983; Chen & Nath, 2005; Karachatzis & Parameshwarappa, 2021).

Figure 9: Constructs and indicators

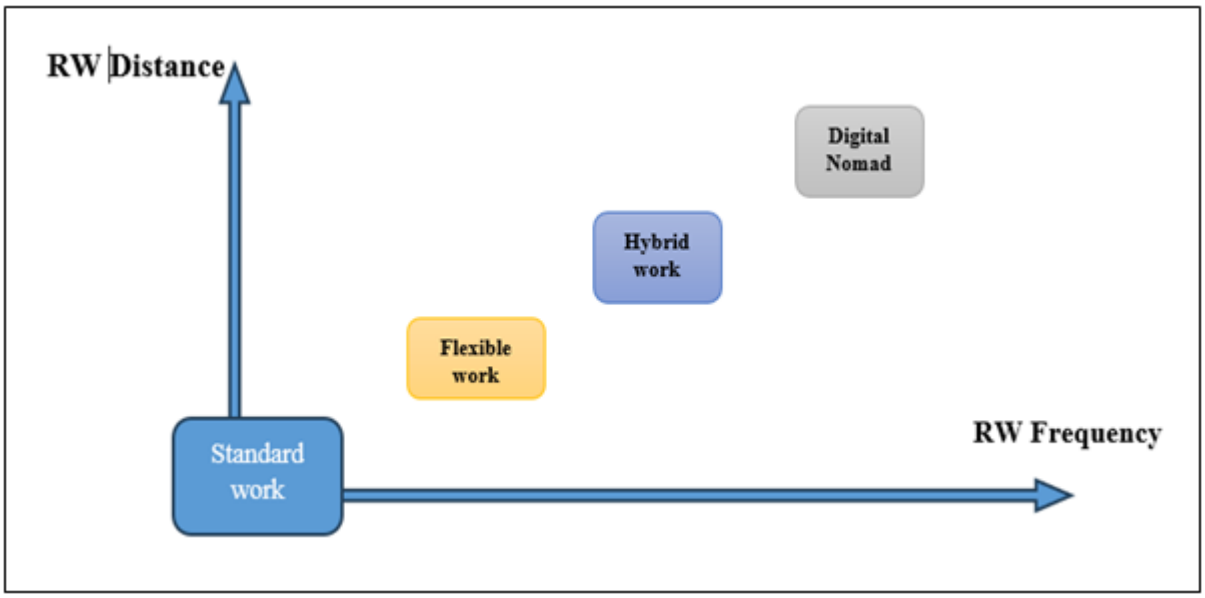


Figure 9: Remote Work Evaluating Model by Karachatzis & Parameshwarappa, 2021).

In the absence of a universally accepted framework for measuring remote work, this study adopts a pragmatic approach by categorizing remote work intensity into five discrete modalities. These include: traditional office-based work (representing the lowest level of remote engagement), satellite office arrangements, hybrid configurations, work-from-home (WFH), and digital nomadism (denoting the highest level of remote intensity). This classification is operationalized through a single-item indicator

Remote Work Intensity (RWI)

measured on a five-point ordinal scale. The categorization draws upon foundational studies in remote work typologies (Olson, 1983; Chen & Nath, 2005) and recent contributions that emphasize the dynamic spectrum of digital work arrangements (Karachatzis & Parameshwarappa, 2021).

The final construct integrated into the research model is Innovation, a critical dependent variable in this thesis. Measurement of this construct is adapted from Abdel-Razek and Alharbi (2017), who built upon the well-established Situational Outlook Questionnaire (SOQ) developed by Isaksen, Lauer, and Ekvall (1999). The indicators assess organizational capacity to foster a creative climate, encompassing dimensions such as freedom to experiment, psychological safety, trust and openness, time allocated for ideation, constructive play and humor, tolerance for conflict and debate, and the presence of formal or informal mechanisms that encourage risk-taking and challenge conventional norms. These attributes collectively provide a multidimensional view of innovation-enabling environments within organizations.

The structural model presented in this chapter builds directly upon the conceptual framework delineated in Figure 8 (Section 2.4), incorporating the previously defined constructs and their corresponding measurement indicators (see Table 1). Each latent construct is represented as an ellipse, with unidirectional arrows linking it to its reflective indicators (represented as rectangles), in accordance with standard PLS-SEM modeling conventions. The direct relationships between the four organizational culture archetypes and the innovation construct are modeled via hypotheses H1 to H4, illustrated with solid unidirectional paths. Furthermore, to examine the conditional influence of remote work on these relationships, the model incorporates dotted arrows denoting moderation hypotheses H5 through H8. These represent the theoretical proposition that remote work alters the strength or direction of the relationship between organizational culture and innovation outcomes

3.2 PLSSEM Model

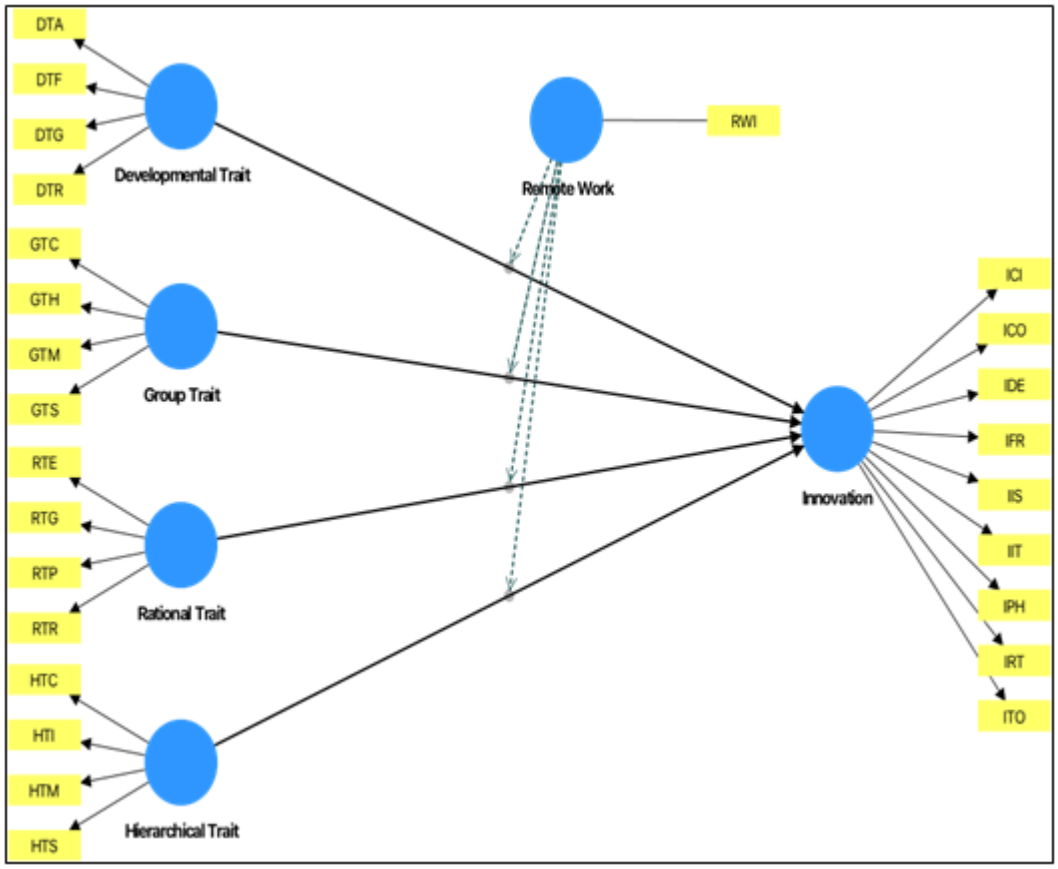
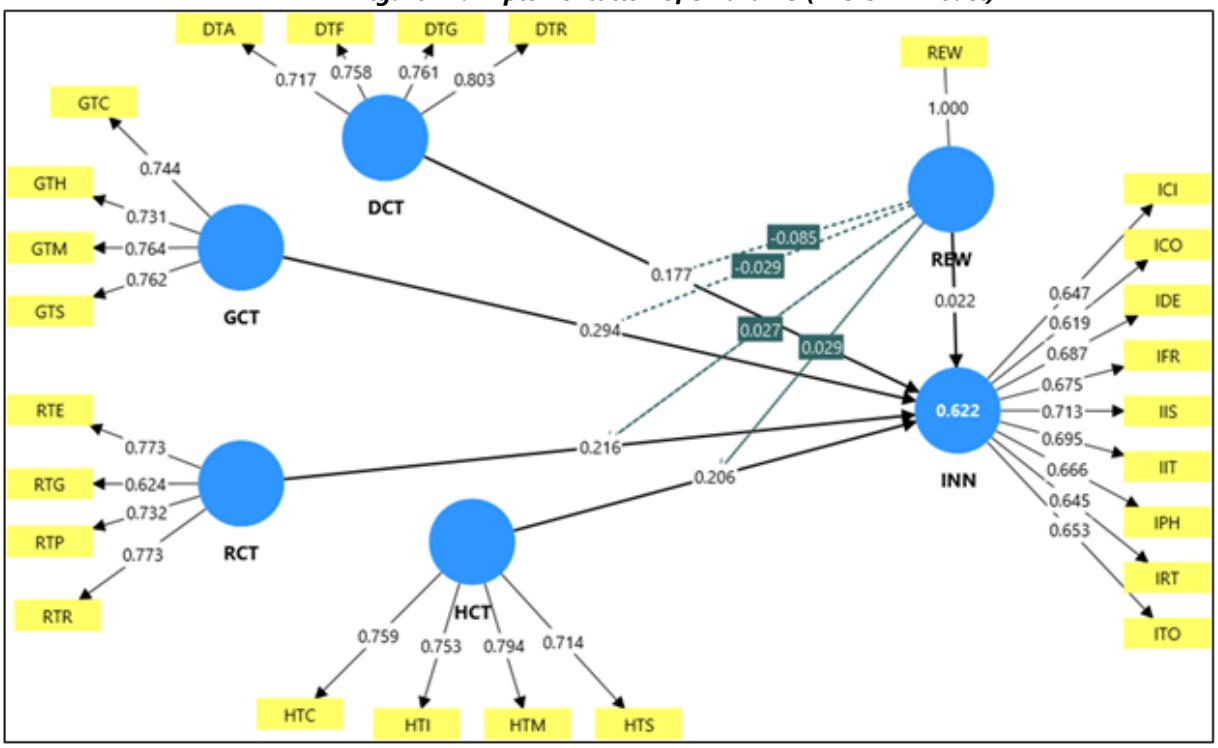


Figure 10: PLS-SEM Model

To empirically test the hypothesized relationships, this study employed the Partial Least Squares Structural Equation Modeling (PLS-SEM) technique using the SmartPLS software package (Ringle, Wende, & Becker, 2015). PLS-SEM was selected due to its suitability for exploratory models involving complex constructs and moderate sample sizes, as well as its flexibility in handling non-normal data distributions. The structural model is depicted in Figure 11 and includes six latent constructs measured through a total of 26 manifest indicators.

Within the SmartPLS environment, moderation analysis is operationalized such that a single moderator construct (in this case, Remote Work Intensity [REW]) interacts with each of the relevant direct paths. The green circular objects displayed at the base of Figure 11 represent distinct moderation terms, corresponding to the interaction effects of REW on each of the four culture–innovation relationships: namely, between Developmental Culture (DCT), Group Culture (GCT), Rational Culture (RCT), and Hierarchical Culture (HCT) with the Innovation (INN) construct. This graphical representation, along with subsequent figures presented in Chapter 4, visualizes the full PLS-SEM framework used to derive and evaluate the study's findings.

Figure 11: Implementation of SmartPLS (PLS-SEM Model)



3.3 Data Collection

Specifically, we collected primary databased on a proposed questionnaire with 26 items to measure the critical variables identified in our research model (see section 3.1). That's why the intended respondents are Indonesian and Cameroon employees in technology sector. These nations are selected since these countries have a promising technology industry and a growing movement towards remote work.

Using Google Forms, the questionnaire is distributed through various digital media including emails, WhatsApp and other social media platforms to enable accessibility to allow maximum participation and obtain various perspectives. Considering the resources required for our survey, data collection and auto coding level (Ghauri, Grønhaug, & Strange, 2020) we went for digital distribution and anonymity that helped promote reliable responses.

Each item of the questionnaire is recorded using a 5-point Likert scale. The classic Likert scale (Likert, 1932), introduced by psychologist Rensis Likert, is a widely-used measurement of attitude and perception in the social sciences. It lets respondents rate their agreement or disagreement with statements from 1 (Strongly Disagree) to 5 (Strongly Agree). Studies indicate that a 5-point scale increases response rates while reducing cognitive overload, since using a scale of more than six response options create the potential for disengagement (Taherdoost, 2019).

The survey was conducted over a 6-week period from February to March 2025, and a total of 320 complete responses were collected. After removing invalid and ineligible responses, the final sample size retained for analysis was 301, which exceeds the minimum threshold of 80 as suggested by the 10-times rule for PLS-SEM models (Hair et al., 2017).

3.4 Sample Size Considerations

A proper sample size is key to guaranteeing the strength of the quantitative research. Since the current study employs PLS-SEM, this renders the study to have the advantages of flexibility towards small study samples and complex models (Hair, Hult, Ringle, & Sarstedt, 2017).

PLS-SEM has a popular guideline called the "10-times rule," which indicates that the minimum sample size equals 10 times the largest number of structural paths to a specific construct (Hair et al., 2017). In this research, the contingent construct is called Innovation which is the maximum incoming paths in the table structural paths (4 direct relationships and 4 moderated relationships). Thus, to address our research question, a minimum sample size of 80 respondents should use. However, in order to increase the reliability of the study and to generalize the findings, we targeted a larger sample size of over 320 respondents, 52.8% from Indonesia and 47.2% from Cameroon.

The final sample comprised 301 valid responses, with approximately 52.8% from Indonesia and 47.2% from Cameroon. The response rate was not calculable in exact percentage terms due to the open-access digital nature of the survey (non-personalized links), but post-distribution monitoring estimated a response completion rate of roughly 72% from survey click-throughs. The sample includes employees from a variety of sub-sectors within the technology industry, such as software development, cloud computing, data analytics, web and app design, cybersecurity, and digital marketing, etc.

Firms represented ranged from startups and SMEs (employing 1–30 staff) to mid-sized tech consultancies and incubator-supported enterprises. This sample composition offers a balanced view of formal and informal digital innovation ecosystems in both countries, enhancing the external validity of the study. (*Appendix A provides the final version of the questionnaire.)*

3.5 Data Analysis

The data analysis strategy in this study employed a structured, multi-phase approach designed to ensure both rigor and relevance. Two advanced software tools were used for different analytical purposes. The first was SmartPLS 4.0, employed for Partial Least Squares Structural Equation Modeling (PLS-SEM), which is particularly suited for exploratory models and smaller sample sizes (Ringle, Wende, & Becker, 2015). The second tool was IBM SPSS Amos 26.0.0, utilized primarily for generating descriptive statistics and for early-stage data diagnostics (Arbuckle, 2019).

3.5.1 Descriptive Statistics

The initial phase of the analysis involved descriptive statistics, which offer a foundational understanding of the data structure. As suggested by Ghauri et al. (2020) and Baradziej and Gkikas (2021), this stage involved computing measures of central tendency (mean, median, mode), dispersion (standard deviation), and skewness to assess the shape and spread of the distribution. Although PLS-SEM does not require data to follow a normal distribution as it is a non-parametric method the detection of severe skewness remains crucial. As noted by Hair et al. (2021), extreme deviations can compromise the accuracy of predictive models, particularly in path estimation and latent variable interpretation.

3.5.2 Assessment of Reliability and Validity

To ensure the robustness of the measurement model, both reliability and validity assessments were conducted. Reliability was examined using Cronbach's Alpha (CA) and Composite Reliability (CR) two established indicators of internal consistency. Acceptable thresholds for both indices are set at 0.70 and above (Hair et al., 2021). Validity, referring to the degree to which indicators measure the intended constructs, was assessed using Average Variance Extracted (AVE), with an acceptable benchmark set at 0.50 (Diamantopoulos et al., 2012; Ghauri, Grønhaug, & Strange, 2020). Together, these metrics ensured that the latent constructs within the model were both conceptually sound and statistically reliable.

3.5.3 Structural Model Assessment

Following validation of the measurement model, the structural model was analyzed to test the hypothesized relationships among constructs. First, the model was checked for collinearity issues using the Variance Inflation Factor (VIF), where values below 3 are considered acceptable to mitigate multicollinearity (Hair et al., 2021). Next, the coefficient of determination (R^2) was calculated to measure the model's predictive power indicating how much variance in the dependent variable is explained by the independent variables. An R^2 above 0.10 was considered indicative of meaningful explanatory strength.

Effect size was assessed using the f^2 statistic, with values above 0.02 considered meaningful. This was supplemented by the Q^2 statistic (cross-validated redundancy), which serves as a diagnostic for predictive relevance. A Q^2 value above zero is interpreted as evidence that the model has predictive capability (Hair, Hult et al., 2017; Hair, Risher et al., 2019). Additionally, the Standardized Root Mean Square Residual (SRMR) was used as a global fit index, where values below 0.10 reflect a good fit between the theoretical model and the observed data (Hu & Bentler, 1999; Lowry & Gaskin, 2014).

3.5.4 Hypothesis Testing

Once model fit and validity were established, the next step involved hypothesis testing. This was conducted through two-tailed significance tests of path coefficients, with the significance level set at $p < 0.05$. This standard approach allowed for the evaluation of directional relationships posited in the conceptual model, grounded in prior theory and literature (Benitez et al., 2020; Ghauri et al., 2020; Hair et al., 2021; Pavlov, Maydeu-Olivares, & Shi, 2021).

3.5.5 Handling of Missing Values and Outliers

Ensuring data quality required a careful approach to missing values and outliers. Consistent with Tabachnick and Fidell (2007), missing values constituting less than 5% of the total sample were imputed using a mean substitution method. However, if the proportion of missing data exceeded this threshold and met the criteria of Missing Completely at Random (MCAR), the affected cases were excluded from the dataset (Hair et al., 2017). Outliers were identified through manual inspection. Those arising from data entry errors were removed, while justifiable outliers were retained to preserve the integrity of the natural data distribution (Hair, Hollingsworth et al., 2017).

3.5.6 Ethical Considerations

Throughout the data collection and analysis phases, ethical integrity remained a top priority. Informed consent was obtained from all participants, and strict measures were put in place to safeguard privacy and confidentiality. No personally identifiable information was collected, stored, or used beyond the scope of this research. The study adhered to best practices in academic research ethics, ensuring transparency, voluntary participation, and the right to withdraw at any point (Eriksson & Santesson, 2021).

4. Results

This chapter presents the empirical results derived from the application of Partial Least Squares Structural Equation Modeling (PLS-SEM) to examine the impact of remote work on organizational culture and innovation within technology-oriented firms in Cameroon and Indonesia. The analysis was conducted using SmartPLS version 4.1.1.1, chosen for its robustness in handling complex models and its suitability for exploratory research in emerging market contexts. The findings are structured to provide a coherent narrative, beginning with a detailed overview of the respondents' demographic and general characteristics, which serve as the contextual foundation for the subsequent statistical analysis. This includes an examination of variables such as age, gender, educational attainment, professional experience, work environment type, and country of employment. These characteristics are essential for interpreting the nature of the workforce involved and understanding the socio-professional settings in which remote work practices are embedded.

Following the demographic profile, the chapter provides a summary of descriptive statistics and assesses the distributional properties of the dataset through measures of central tendency, dispersion, skewness, and kurtosis. Although PLS-SEM does not impose strict normality assumptions, evaluating these properties ensures transparency and enhances the interpretability of the results.

The analysis then proceeds to the evaluation of the measurement model, which is critical for establishing the reliability and validity of the latent constructs. This includes an assessment of indicator reliability, internal consistency reliability through Cronbach's alpha and composite reliability, convergent validity via average variance extracted (AVE), and discriminant validity based on the heterotrait-monotrait (HTMT) ratio. Only constructs that meet established thresholds are retained for further structural evaluation.

Finally, the structural model is assessed to examine the hypothesized relationships between constructs. Path coefficients, coefficient of determination (R^2), effect sizes (f^2), and predictive relevance (Q^2) are presented to evaluate the model's explanatory and predictive power. The significance of the hypothesized paths is tested using bootstrapping with 5,000 subsamples to derive robust standard errors and confidence intervals. For clarity and consistency, all constructs and indicators are referred to using

three-letter codes, as defined in Table 1 of Chapter 3. This structured presentation facilitates a rigorous and transparent interpretation of the results, providing a solid basis for the discussion and conclusions that follow in subsequent chapters.

4.1 Demographic and General Information

The demographic and general characteristics of the respondents provide essential context for understanding the organizational environments in which remote work practices are evolving. These insights serve as a foundational layer for interpreting the structural relationships explored in later sections of this study.

4.1.1 Age Distribution

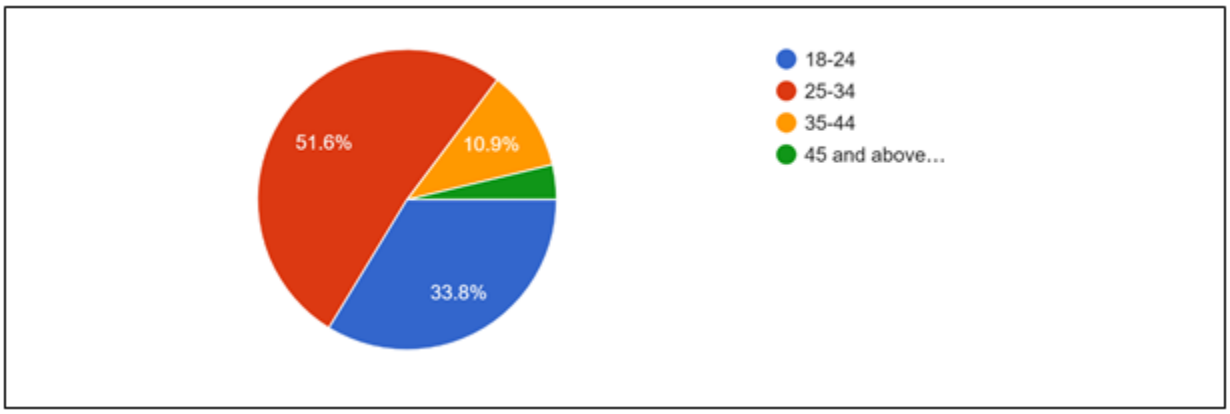


Figure 12: Age Distribution

The age distribution of respondents indicates a predominantly young workforce, with 51.6% falling within the 25–34 years category, followed by 33.8% in the 18–24 years group. Participants aged 35–44 years constituted 10.9%, while only 3.8% were aged 45 years and above. This youthful demographic profile reflects broader labor trends in emerging economies, particularly within the technology sector, where younger professionals often lead the adoption of digital tools and flexible work practices. Their high representation is particularly relevant in the context of this study, as younger employees are generally more adaptable to remote work environments and more open to decentralized decision-making and innovation-driven cultures. The dominance of early-career professionals suggests that the organizations represented in this study may be undergoing cultural transformation from within, shaped by a generation that values autonomy, digital literacy, and collaborative problem-solving attributes that align closely with the core dynamics of remote and hybrid work settings.

4.1.2 Gender Distribution

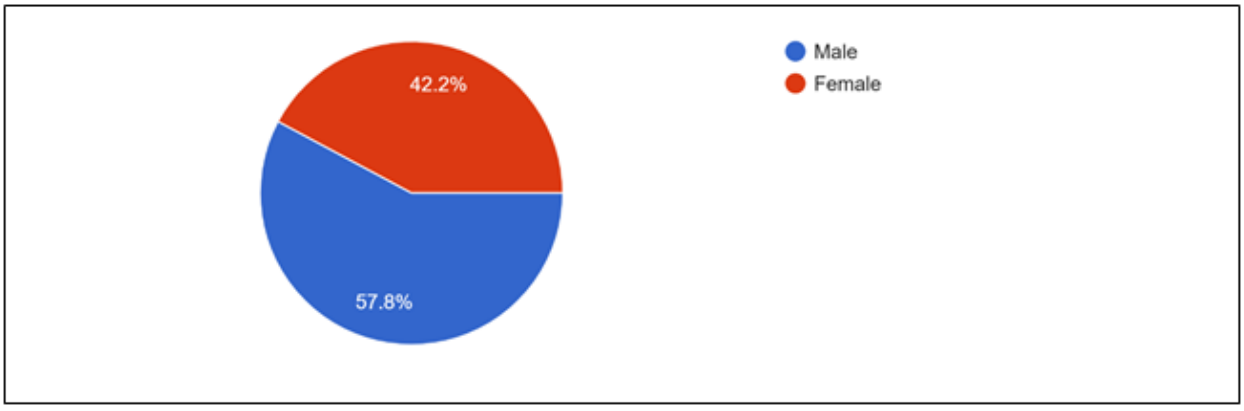


Figure 13: Gender Distribution

The gender distribution of the respondents reveals a moderately balanced representation, with 57.8% identifying as male and 42.2% as female. While this reflects a slight male predominance, it is notable given the persistent gender disparities typically observed in technology sectors, particularly within emerging economies. The meaningful participation of female professionals in this study offers a more comprehensive view of the workforce and provides important insights into the role of gender diversity in shaping organizational culture and innovation. Prior research underscores that gender-diverse teams often exhibit enhanced collaboration, empathy, and creative problem-solving traits that are especially valuable in remote and hybrid work environments. Therefore, the inclusion of both male and female perspectives enriches the cultural and structural interpretation of remote work practices, highlighting how inclusivity contributes to adaptive and innovation-friendly organizational dynamics.

4.1.3 Education Level

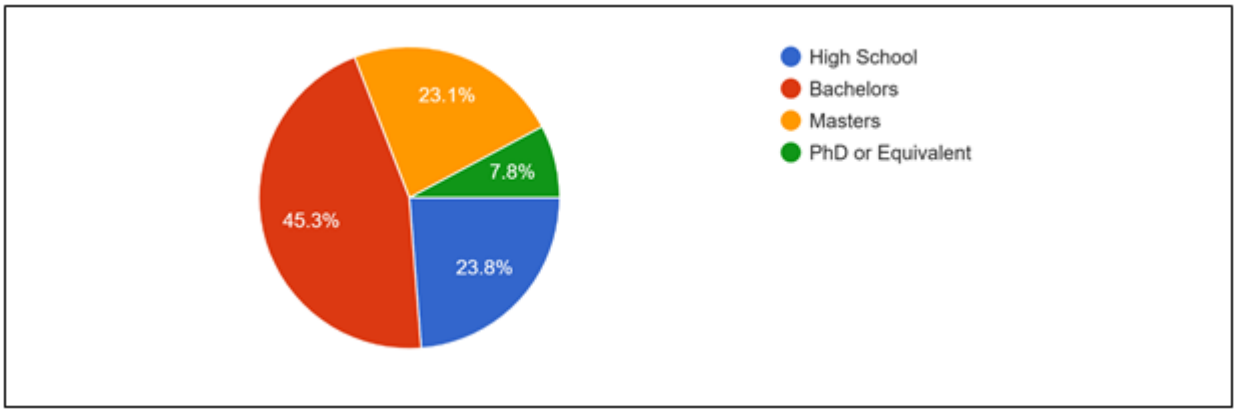


Figure 14: Educational Level

The educational profile of the respondents reflects a well-qualified workforce, with 45.3% holding a Bachelor's degree, 23.8% having completed secondary education (High School), 23.1% possessing a Master's degree, and a smaller yet significant 7.8% having attained a PhD or equivalent. This distribution suggests a strong foundation of formal education among participants, aligning with the demands of the technology sector, where specialized knowledge and advanced skills are often prerequisites for effective performance. The presence of postgraduate qualifications among over 30% of respondents (Master's and PhD combined) is particularly relevant in the context of remote work and innovation, as such individuals are more likely to engage in autonomous work, exhibit self-directed learning behaviors, and contribute meaningfully to complex problem-solving processes. Moreover, the educational diversity across the sample provides a basis for examining how various levels of academic exposure influence individuals' receptivity to remote work structures and their participation in shaping innovative and adaptive organizational cultures.

4.1.4 Involvement in a Technology-Oriented Industry

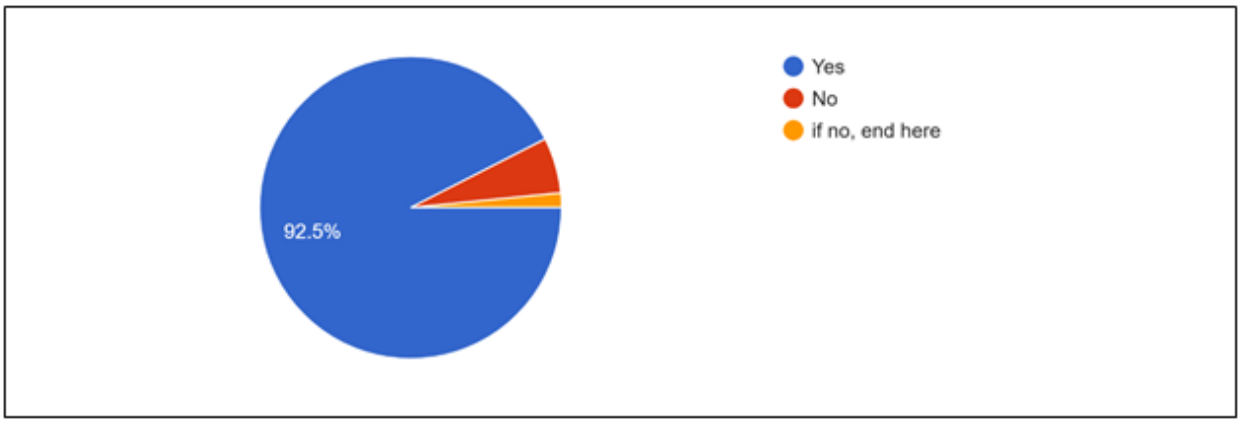


Figure 15: Working Sector

The vast majority of respondents (92.5%) confirmed that they are currently employed in a technology-oriented industry, while a smaller fraction (5.9%) reported not working in such a sector. An additional 1.6% selected "if no, end here," indicating their exclusion from further analytical consideration. This high representation of tech-sector professionals affirms the relevance of the sample to the study's core focus on remote work, culture, and innovation in digitally driven environments. Technology-based organizations are typically early adopters of remote and hybrid models, making them ideal settings for investigating the evolving nature of organizational culture and the mechanisms that support innovation in distributed work structures.

4.1.5 Years of Experience in the Technology Sector

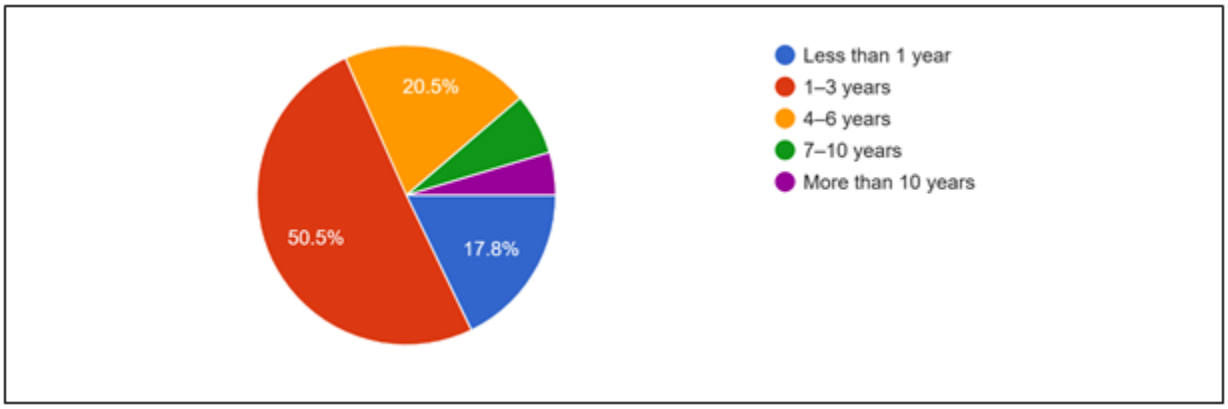


Figure 16: Years of experience

Among respondents working in technology-oriented industries, 50.5% reported having 1–3 years of professional experience, followed by 20.5% with 4–6 years, and 17.8% with less than one year. A smaller proportion indicated 7–10 years (6.6%), while only 4.6% had more than 10 years of experience. This distribution reflects a workforce primarily composed of early-career professionals, which is consistent with the rapid growth of the tech sector in emerging economies. These individuals are likely to be more adaptable to digital workflows and responsive to evolving organizational cultures shaped by remote work practices. Their formative engagement with technology positions them as key contributors to the development of innovation-ready, decentralized work environments.

4.1.6 Company Size

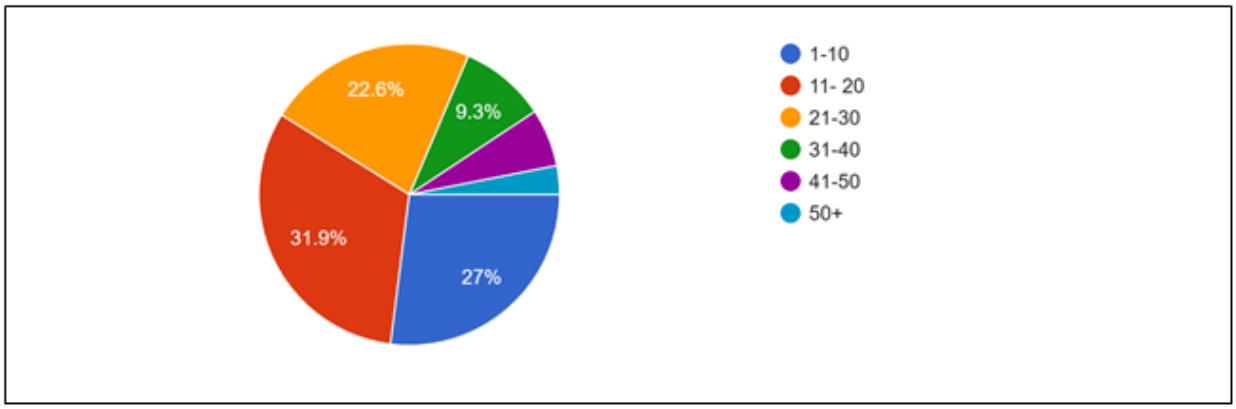


Figure 17: Company Size

The majority of respondents work in small to mid-sized enterprises, with 31.9% employed in organizations with 11–20 employees, 27.0% in 1–10 employee firms, and 22.6% in companies housing 21–30 employees. Smaller proportions were reported for organizations with 31–40 employees (9.3%), 41–50 employees (6.2%), and more than 50 employees (3.1%). This distribution is reflective of the SME-dominated nature of the technology sector in emerging economies such as Cameroon and Indonesia. Smaller firms often operate with flatter hierarchies and flexible structures, making them more responsive to remote work adaptations. However, their limited scale may also present challenges in formalizing innovation practices and sustaining long-term cultural development under distributed work arrangements.

4.1.7 Job Role Description

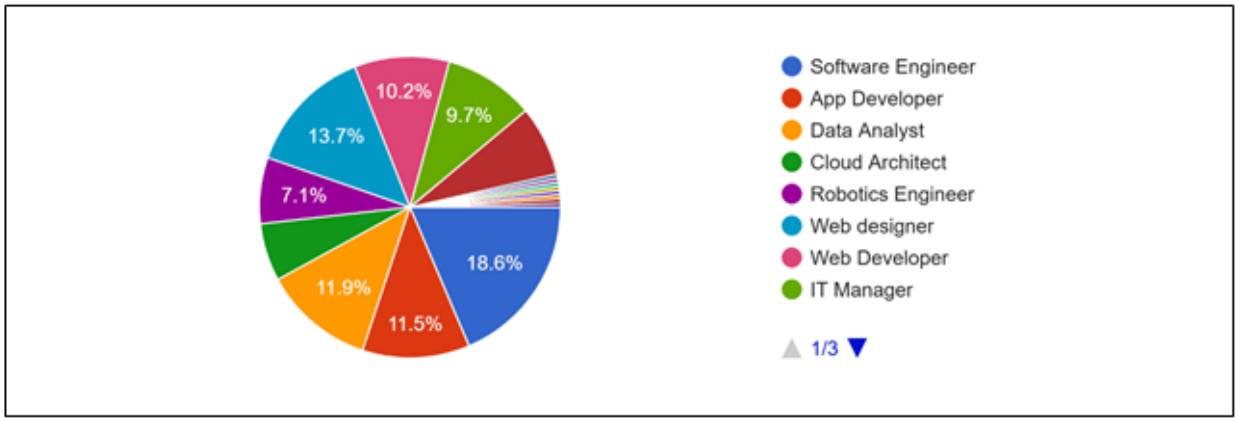


Figure 18: Job role description

Respondents reported a wide range of professional roles within the technology sector, reflecting the diversity of digital competencies in emerging markets. The most frequently cited roles were Software Engineer (42), Web Designer (31), Data Analyst (27), App Developer (26), and Web Developer (23). Other notable positions included IT Manager, Cyber Security Specialist, Robotics Engineer, and Cloud Architect. This variety demonstrates the presence of both technical and managerial profiles, suggesting a balanced ecosystem of production, supervision, and innovation within the sampled organizations. The concentration of software- and web-related roles aligns with the increasing demand for digital solutions and platform-based services in remote work settings, further supporting the study's relevance to innovation in virtual and hybrid work environments.

4.1.8 Country of Work

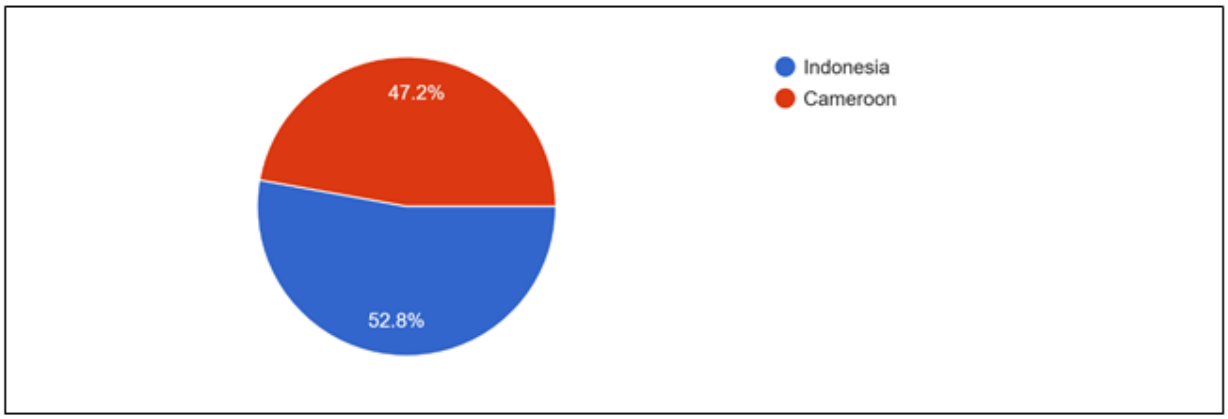


Figure 19: Region/Country of Work

Respondents were drawn from two primary geographic contexts, Indonesia and Cameroon in alignment with the cross-national design of this study. A slight majority (52.8%) of participants reported working in Indonesia, while the remaining 47.2% were based in Cameroon. This relatively balanced distribution enhances the comparative depth of the research and allows for meaningful cross-contextual analysis of how national environments mediate the effects of remote work on organizational culture and innovation. The inclusion of both countries, which represent distinct cultural, infrastructural, and institutional landscapes within the Global South, strengthens the study's external validity and supports nuanced interpretations of digital work adaptation in emerging economies.

4.1.9 Conclusion

In summary, the demographic and general characteristics of the respondents reveal a predominantly young, well-educated, and professionally diverse workforce situated within technology-oriented organizations in Cameroon and Indonesia. The majority are early-career professionals working in small to mid-sized firms under varied work arrangements including remote, hybrid, and office-based models reflecting the evolving realities of digital labor in emerging markets. The balanced gender composition, high levels of academic attainment, and representation across different functional roles further strengthen the empirical foundation for examining the impact of remote work on organizational culture and innovation. These contextual insights not only enhance the interpretability of the subsequent structural model results but also underscore the relevance of the study's focus within rapidly transforming work environments in the Global South.

4.2 Descriptive Statistics

The descriptive statistics for the dataset are presented in Table 1 below. It details the mean, median, standard deviation, excess kurtosis, and skewness for each variable. These measures provide an initial understanding of the distribution and variability of the data.

Across the variables, the mean values range from 2.702 to 3.718, with the majority of means being close to or slightly above 3. This indicates that the responses tend to cluster around the midpoint of the measurement scale. The medians for all variables are 4.000, except for REW (3.000) and DTF (3.000). This reinforces the position that responses are generally skewed toward the higher end of the scale. The standard deviations (SD) range from 1.091 to 1.395, indicating moderate variability in the data. Variables like REW (1.395) and DTF (1.218) have relatively higher variability compared to others, suggesting more diverse responses in these areas.

In addition, the skewness values for most variables are negative, indicating that the distribution of responses is slightly skewed to the left (toward higher values on the scale). This is especially notable for variables such as GTS (-0.710), HTM (-0.739), and IIS (-0.811), which exhibit stronger left skewness. Finally, the excess kurtosis values are generally negative, indicating a distribution that is flatter than the normal distribution (platykurtic). This suggests that the data has lighter tails, with fewer extreme values compared to a normal distribution. The lowest kurtosis is observed for REW (-1.384), while the highest (closest to zero) is found in IDE (0.040), suggesting this variable follows a near-normal distribution. ***(****See Table in appendix C)*

Assessment of Measurement Model

This section assesses the reliability and validity of the PLS-SEM measurement model. This includes examining the internal consistency, convergent validity, and discriminant validity of the constructs. The assessment of the measurement model helps confirm that the measures adequately represent the theoretical concepts under study.

Indicator Reliability

Indicator reliability refers to the degree to which an indicator's variance is explained by the construct it is intended to measure. This is assessed by examining the strength of the relationship between each indicator and its corresponding construct, typically through the indicator's loading.

Indicator Loadings

Indicator loadings measure the strength of the relationship between an indicator and its corresponding latent variable. Higher loadings indicate that the indicator is a strong representation of the construct, while lower loadings suggest weaker relationships.

Table 2 summarizes the indicator loadings as shown in Figure 1.

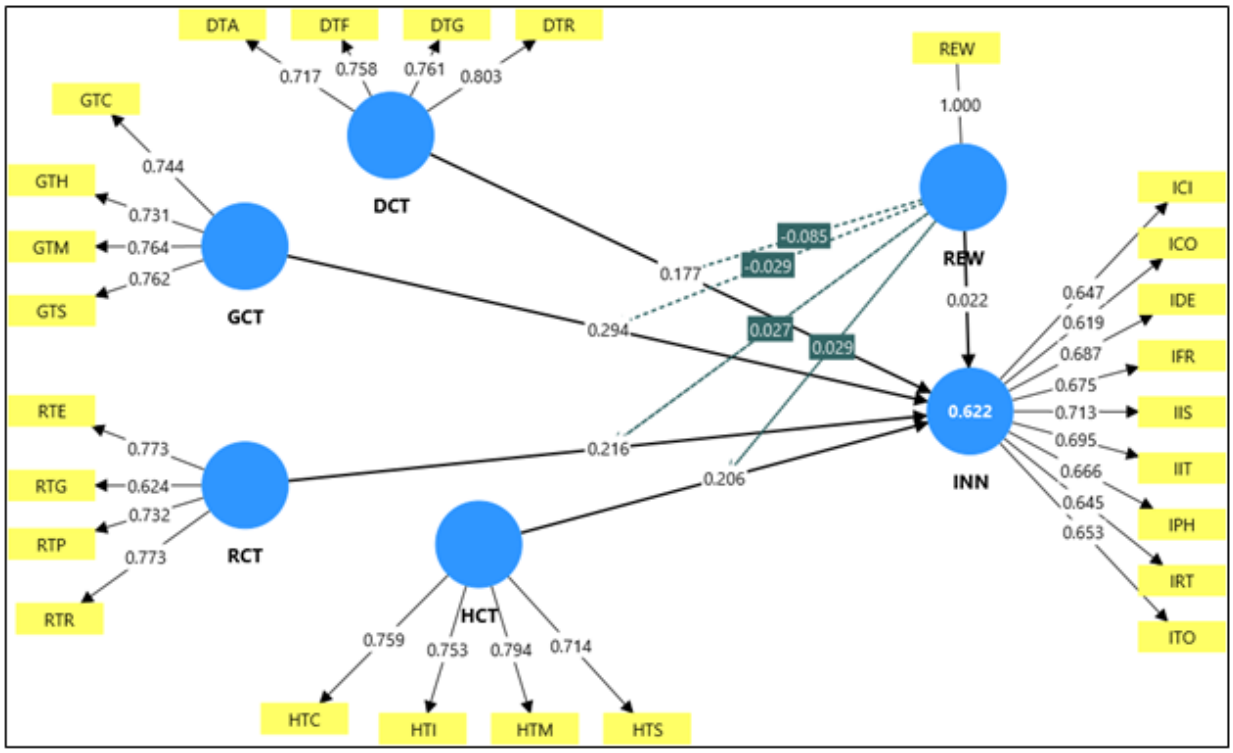


Figure 20: Original measurement model

Table 1: Indicator loadings in the original model

	DCT	GCT	HCT	INN	RCT	REW
DTA	0.717					
DTF	0.758					
DTG	0.761					
DTR	0.803					
GTC		0.744				
GTH		0.731				
GTM		0.764				
GTS		0.762				
HTC			0.759			
HTI			0.753			
HTM			0.794			
HTS			0.714			
ICI				0.647		
ICO				0.619		
IDE				0.687		
IFR				0.675		
IIS				0.713		
IIT				0.695		
IPH				0.666		
IRT				0.645		
ITO				0.653		
REW						1.000
RTE					0.773	
RTG					0.624	
RTP					0.732	
RTR					0.773	

(Continuation of table 1: Indicator loadings in the original model)

In the assessment of the indicator loadings, the focus is placed on the strength of the relationships between each indicator and its respective construct. Typically, a loading of 0.7 or higher is considered acceptable, although slightly lower values may be tolerated if the construct's overall reliability is satisfactory. In table 2, it is observed that DTA (0.717) and DTR (0.803) show strong loadings on DCT, while HTC (0.759) and HTM (0.794) have strong loadings on HCT. Indicators with loadings between 0.6 and 0.7, such as ICO (0.619) and RTG (0.624), are slightly below the ideal threshold. Indicators with significantly low loadings (below 0.6) would typically require further review or potential removal, though none are present in this data. In light of this, the following indicators were removed from the model; RTG, ICO, IRT due to their low loadings.

A new model was constructed with the updated indicators.

This is illustrated in figure 2 and the indicator loadings are summarized in table 3.

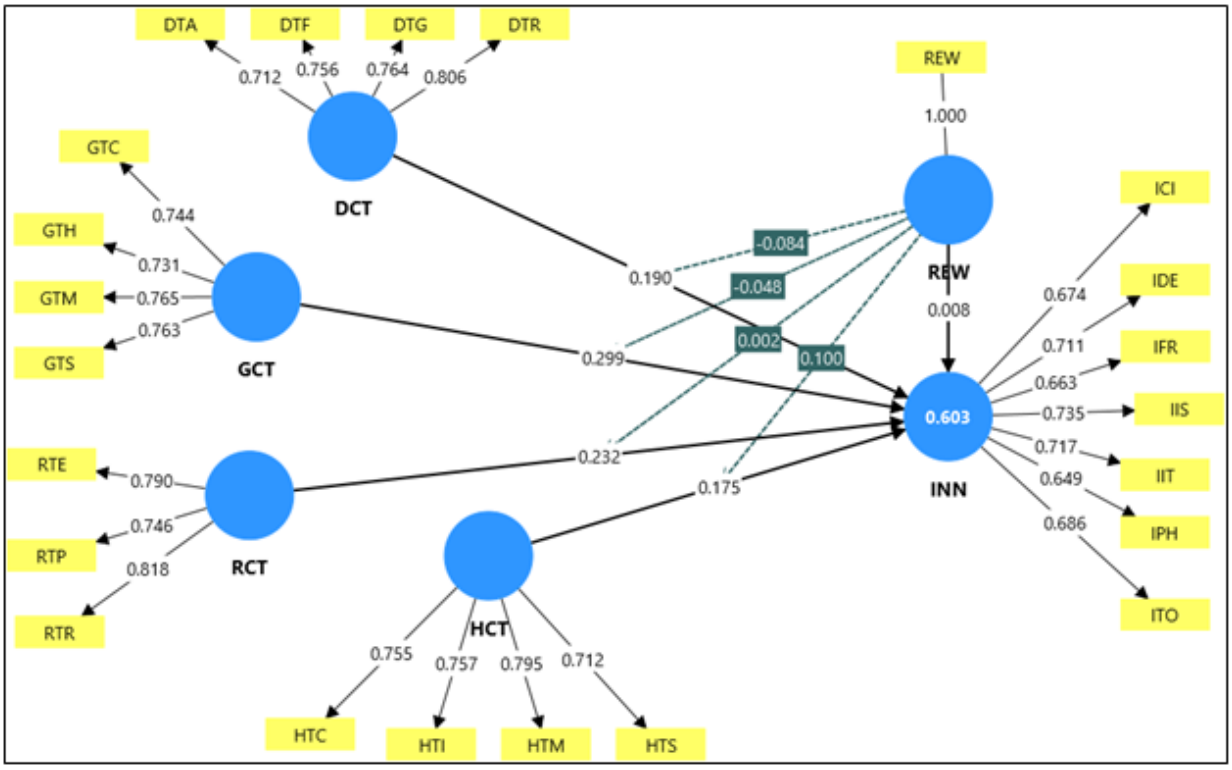


Figure 21: Updated measurement model

Table 2: Indicator loadings in the updated model

	DCT	GCT	HCT	INN	RCT	REW
DTA	0.712					
DTF	0.756					
DTG	0.764					
DTR	0.806					
GTC		0.744				
GTH		0.731				
GTM		0.765				
GTS		0.763				
HTC			0.755			
HTI			0.757			
HTM			0.795			
HTS			0.712			
ICI				0.674		
IDE				0.711		
IFR				0.663		
IIS				0.735		
IIT				0.717		
IPH				0.649		
ITO				0.686		
REW						1.000
RTE					0.790	
RTP					0.746	
RTR					0.818	

(Continuation of Table 2: Indicator loadings in the updated model)

In this updated model, it is observed that most indicators meet this threshold confirming their reliability. However, there are a few indicators with loadings slightly below 0.7, such as ICI (0.674) and IPH (0.649) under INN. These indicators are retained because they do not affect the overall performance of the model.

Internal consistency reliability

The internal consistency reliability evaluates the degree to which the items within a construct are correlated with each other, indicating that they consistently measure the same latent variable. It is typically assessed through composite reliability and Cronbach's alpha. They both provide insight into the reliability of the construct's measures.

Composite Reliability

Composite reliability is a more comprehensive measure of internal consistency than Cronbach's alpha, as it accounts for the differing loadings of individual indicators. Values above 0.7 are considered acceptable, indicating that the construct exhibits good internal consistency. In this case, all constructs exceed the 0.7 threshold, with composite reliability (rho_c) values ranging from 0.828 (RCT) to 0.865 (INN), demonstrating that the model's constructs have strong reliability.

Table 3: Composite Reliability

	Composite reliability (rho_c)
DCT	0.845
GCT	0.838
HCT	0.841
INN	0.865
RCT	0.828

Cronbach Alpha

Cronbach's alpha is a traditional measure of internal consistency reliability. Values above 0.7 are generally considered acceptable. In this model, four out of five constructs surpass this threshold, with DCT (0.757), GCT (0.742), HCT (0.748), and INN (0.818) indicating good reliability. However, RCT has a Cronbach's alpha of 0.689, which is slightly below the preferred threshold but still considered acceptable because the composite reliability support the construct's validity.

Table 4: Cronbach alpha

	Cronbach's alpha
DCT	0.757
GCT	0.742
HCT	0.748
INN	0.818
RCT	0.689

Convergent Validity

Convergent validity assesses the extent to which a construct's indicators correlate with one another, indicating that they are measuring the same concept. One way to evaluate convergent validity is through the Average Variance Extracted (AVE), which indicates the average amount of variance a construct's indicators explain. An AVE value of 0.5 or higher is generally considered acceptable, as it shows that at least 50% of the variance is explained by the indicators of the construct.

Average Variance Extracted (AVE)

The AVE results for the constructs show that most meet or exceed the 0.5 threshold, indicating adequate convergent validity. DCT (0.578), GCT (0.563), HCT (0.571), and RCT (0.617) all exhibit strong convergent validity, as they explain more than 50% of the variance in their indicators.

Table 5: AVE of the constructs

	Average variance extracted (AVE)
DCT	0.578
GCT	0.563
HCT	0.571
INN	0.478
RCT	0.617

However, INN falls slightly short, with an AVE of 0.478. While this value is below the 0.5 benchmark, it is still close enough that the construct is retained. In short, the results suggest that the majority of the constructs demonstrate good convergent validity.

Discriminant Validity

Discriminant validity assesses whether constructs that are theoretically distinct from one another also demonstrate statistical distinction. It confirms that indicators of a construct are more strongly correlated with their own construct than with any other. This is important for ensuring that each construct captures phenomena that are unique to it. The discriminant validity for this model is evaluated using the Fornell-Larcker criterion, cross-loadings, and the Heterotrait-Monotrait (HTMT) ratio.

Fornell-Lacker criterion

The Fornell-Larcker criterion compares the square root of the AVE for each construct with its correlations with other constructs. Discriminant validity is confirmed if the square root of the AVE for a construct is greater than its correlation with other constructs. In this analysis, DCT (0.760), GCT (0.751), HCT (0.755), INN (0.692), RCT (0.785), and REW (1.000) all meet this condition, demonstrating adequate discriminant validity.

Table 6: Fornell-Lacker criterion

	DCT	GCT	HCT	INN	RCT	REW
DCT	0.760					
GCT	0.642	0.751				
HCT	0.567	0.666	0.755			
INN	0.613	0.685	0.659	0.692		
RCT	0.557	0.642	0.710	0.663	0.785	
REW	0.073	0.116	0.089	0.099	0.130	1.000

Cross loadings

Cross-loadings compare the loadings of indicators on their assigned constructs with their loadings on other constructs. For discriminant validity to be confirmed, an indicator's loading on its own construct should be higher than its loadings on other constructs. The results indicate that each indicator loads more highly on its intended construct than on any other. Thus, this confirms discriminant validity through cross-loadings. ***(****See Appendix D)*

Heterotrait – Monotrait (HTMT) ratio

The HTMT ratio is another method for evaluating discriminant validity by calculating the ratio of correlations between constructs that measure different traits (heterotrait) to correlations within the same trait (monotrait). Values below 0.85 are often considered indicative of discriminant validity.

Table 7: Heterotrait – Monotrait (HTMT) ratio

	DCT	GCT	HCT	INN	RCT	REW	REW x DCT	REW x HCT	REW x GCT	REW x RCT
DCT										
GCT	0.862									
HCT	0.755	0.892								
INN	0.770	0.870	0.838							
RCT	0.771	0.897	0.987	0.871						
REW	0.083	0.134	0.103	0.108	0.157					
REW x DCT	0.250	0.298	0.317	0.286	0.219	0.002				
REW x HCT	0.313	0.395	0.314	0.252	0.208	0.029	0.666			
REW x GCT	0.289	0.272	0.392	0.290	0.255	0.004	0.692	0.706		
REW x RCT	0.209	0.249	0.200	0.186	0.167	0.025	0.648	0.768	0.701	

Continuation of Table 7: Heterotrait – Monotrait (HTMT) ratio

In the model, most HTMT values fall below this threshold, confirming discriminant validity, with the exception of a higher value between RCT and HCT (0.987).

Assessment of Structural Model

The structural model must be assessed to examine the relationships between latent variables and test the proposed hypotheses. The structural model assessment focuses on several key elements: path coefficients, R^2 values (explained variance), effect sizes

(f^2), and predictive relevance (Q^2). These metrics help determine the strength, direction, and significance of relationships in the model, as well as the model's overall predictive capability.

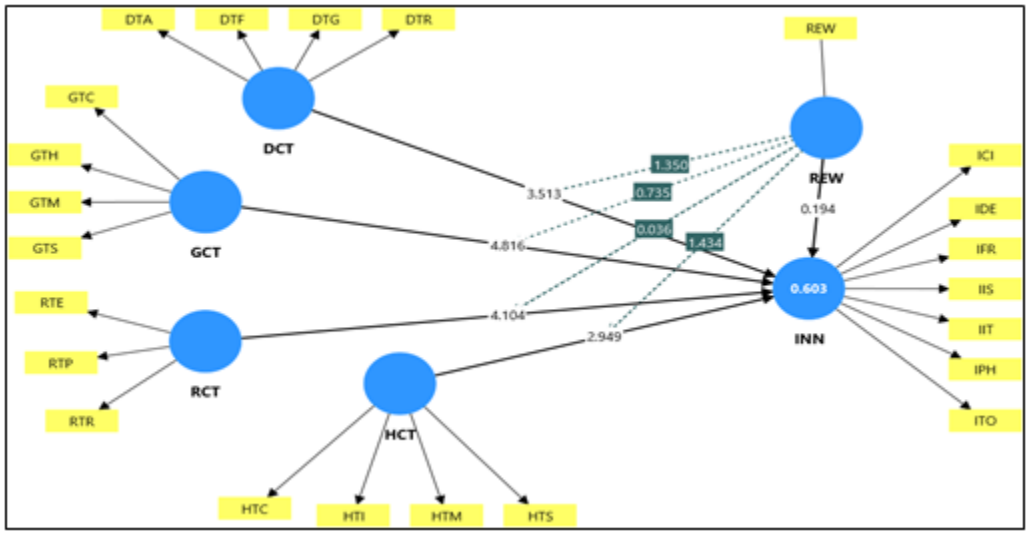


Figure 22: Structural model with T-values and R square.

The R^2 value, also known as the coefficient of determination, indicates the proportion of variance in the dependent construct explained by the independent variables. For the construct INN (Innovation), the R^2 value is 0.603, which means that 60.3% of the variance in INN is explained by the independent variables in the model.

Variance Inflation Factor (VIF)

The VIF is used to assess multicollinearity between the predictor variables in the structural model. A VIF value above 5 typically indicates high multicollinearity, while values below 3 are considered acceptable. In this model, all VIF values are below 5, indicating that multicollinearity is not a significant concern. The VIF values range from 1.023 (REW -> INN) to 3.215 (REW x HCT -> INN). This suggests that the predictor variables are sufficiently independent from each other and do not pose multicollinearity issues.

Table 8: VIF of the model

	VIF
DCT -> INN	1.867
GCT -> INN	2.542
HCT -> INN	2.642
RCT -> INN	2.372
REW -> INN	1.023
REW x DCT -> INN	2.259
REW x GCT -> INN	2.839
REW x HCT -> INN	3.215
REW x RCT -> INN	2.949

Effect size (f^2)

The effect size (f^2) is used to evaluate the impact of each predictor variable on the dependent variable, in this case, INN. It helps determine how much variance in the dependent variable is explained by each independent variable when it is included in the model. According to the guidelines, f^2 values of 0.02, 0.15, and 0.35 represent small, medium, and large effects, respectively.

Table 9: Effect size

	f-square	Effect type
DCT -> INN	0.049	Small effect
GCT -> INN	0.089	Small effect
HCT -> INN	0.029	Small effect
RCT -> INN	0.057	Small effect
REW -> INN	0.000	No effect
REW x DCT -> INN	0.009	Negligible effect
REW x GCT -> INN	0.002	Negligible effect
REW x HCT -> INN	0.009	Negligible effect
REW x RCT -> INN	0.000	No effect

These results suggest that all direct predictors have a small effect on INN, while the interaction terms and REW itself have either negligible or no effect.

Cross-validated redundancy measure (Q^2)

The Q^2 assesses the predictive relevance of the structural model by determining how well the model can predict data points that were omitted during model estimation. A Q^2 value greater than zero indicates predictive relevance for a specific endogenous construct. For the construct INN, the Q^2predict value is 0.573, which is positive and indicates that the model has good predictive relevance for INN.

Table 10: Cross-validated redundancy

	Q^2predict
INN	0.573

Overall model fit

The overall model fit is assessed using the Standardized Root Mean Square Residual (SRMR). The SRMR measures the discrepancy between the observed and predicted correlations. An SRMR value below 0.08 is considered a good fit. Both the saturated and estimated models had an SRMR is 0.069. This indicates an acceptable fit between the model and the data. Therefore, the model fits the data well.

Hypothesis Testing

Hypothesis testing in PLS-SEM involves assessing the significance and strength of relationships between constructs in the structural model. This is done using path coefficients, t-values, and p-values obtained through bootstrapping, which tests the proposed hypotheses. The results determine whether the hypothesized relationships are supported or rejected.

Table 11: Path coefficients of PLS-SEM model

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
DCT -> INN	0.190	0.191	0.054	3.513	0.000
GCT -> INN	0.300	0.298	0.062	4.816	0.000
HCT -> INN	0.174	0.178	0.059	2.949	0.002
RCT -> INN	0.232	0.230	0.057	4.104	0.000
REW -> INN	0.008	0.009	0.039	0.194	0.423
REW x DCT -> INN	-0.083	-0.084	0.062	1.350	0.089
REW x GCT -> INN	-0.048	-0.046	0.065	0.735	0.231
REW x HCT -> INN	0.100	0.099	0.070	1.434	0.076
REW x RCT -> INN	0.002	0.005	0.062	0.036	0.486

The hypothesis testing results demonstrate that several constructs have significant effects on the endogenous variable, INN. First, DCT shows a positive and significant impact on INN with a path coefficient of 0.190 (p = 0.000). Similarly, GCT also exerts a significant positive effect on INN, as evidenced by its path coefficient of 0.300 (p = 0.000). In the same vein, HCT contributes positively to INN, with a path coefficient of 0.174 (p = 0.002), and RCT displays a significant positive relationship with INN, showing a coefficient of 0.232 (p = 0.000).

However, REW has an insignificant effect on INN, as reflected by its very low coefficient of 0.008 (p = 0.423), suggesting that it does not meaningfully influence INN. Furthermore, while the interaction terms between REW and DCT, GCT, HCT, and RCT are tested, none of them yield significant results. Specifically, REW x DCT (p = 0.089), REW x GCT (p = 0.231), REW x RCT (p = 0.486), and REW x HCT (p = 0.076) show non-significant effects, though the interaction with HCT approaches significance.

Table 12: Summary of hypothesis test results

Hypothesis	Path Coefficient (O)	T-statistics	P-value	Supported
H1	0.190	3.513	0.000	**Yes**
H2	0.300	4.816	0.000	**Yes**
H3	0.174	2.949	0.002	**No** (positive effect)
H4	0.232	4.104	0.000	**Yes**
H5	-0.083	1.350	0.089	**No**
H6	-0.048	0.735	0.231	**No**
H7	0.100	1.434	0.076	**No** (positive effect)
H8	0.002	0.036	0.486	**No**

The results support the positive impact of the developmental, group, and rational cultural traits on innovation, confirming hypotheses H1, H2, and H4. However, contrary to H3, the hierarchical cultural trait has a positive, rather than negative, impact on innovation. In addition, hypotheses H5 through H8, which proposed negative moderating effects of remote work on the relationships between cultural traits and innovation, are not supported by the data. This suggests that remote work does not significantly influence the impact of cultural traits on innovation.

5. Discussion and Analysis

The central research question posed in this thesis was: *How does remote work impact the relationship between organizational culture and innovation in the technology sector of emerging economies such as Indonesia and Cameroon?* This question aimed to uncover whether remote working environments strengthen, weaken, or otherwise influence the established link between specific cultural traits and innovation.

The research question driving this study was summarized into eight hypotheses, tested using quantitative data through Partial Least Squares Structural Equation Modelling (PLS-SEM). As shown in Table 1, all four hypotheses related to the direct relationship between organizational cultural traits and innovation were supported, while the moderating role of remote work was not confirmed. This section discusses these findings in detail.

The data collection process was based on the integration of two highly regarded instruments in organizational research: the Organizational Culture Assessment Instrument (OCAI) grounded in the Competing Values Framework (Cameron & Quinn, 2006) and the Situational Outlook Questionnaire (SOQ) by Isaksen, Lauer, and Ekvall (1999). These instruments were selected to ensure robust data quality and content validity. To our knowledge, this study is among the first to combine these tools in assessing the interaction of organizational culture, innovation, and remote work in the technology sector of emerging economies. The full, original versions of the questionnaires were used without modification to preserve their validity.

The first four hypotheses (H1–H4) were derived from existing literature, notably Büschgens, Bausch, and Balkin (2013), and are used as benchmarks for this study's findings. Hypotheses H5–H8, however, extend the conversation into novel territory by exploring the moderating role of remote work a relevant post-pandemic consideration.

5.2 *Benchmarking Results and Interpretation*

Table 13: Benchmarking Hypotheses H1–H4 against Büschgens et al. (2013)

Hypothesis	Relationship	As Reported in Literature	As Found in This Study
H1	Developmental Trait → Innovation	Strong positive	Supported (β = 0.190, p < 0.001)
H2	Group Trait → Innovation	Medium positive	Supported (β = 0.300, p < 0.001)
H3	Hierarchical Trait → Innovation	Medium negative	Supported (β = 0.174, p = 0.002) (Opposite)
H4	Rational Trait → Innovation	Weak positive	Supported (β = 0.232, p < 0.001)

Continuation of Table 13: Benchmarking Hypotheses H1–H4 against Büschgens et al. (2013)

Table 1 shows that H1 and H2 in this study align well with the meta-analytic findings by Büschgens et al. (2013), which drew from 43 previous studies encompassing over 6,000 organizations. In particular, both studies confirm the strong impact of developmental traits and the moderately strong influence of group traits on innovation. Our analysis corroborates this pattern, with the developmental trait showing a statistically significant relationship (β = 0.190), and the group trait demonstrating the strongest influence on innovation in our model (β = 0.300).

However, H3 and H4 diverge slightly. Büschgens et al. (2013) found that hierarchical culture negatively impacts innovation and rational culture has a weak positive impact. Our findings reveal positive and significant relationships for both traits. This discrepancy can be partially explained by contextual differences. Our focus on the technology sector where structure and process orientation are often linked to operational efficiency and regulatory compliance may elevate the value of hierarchical and rational characteristics, even in innovative settings.

It's also important to consider sample composition. Büschgens et al. (2013) analyzed cross-sectoral organizations with varied cultural profiles. In contrast, our sample focused exclusively on the technology sector in two emerging economies. Technology-oriented firms in Indonesia and Cameroon, striving for stability in rapidly changing environments, may adopt hierarchical traits as mechanisms for control and risk management. Likewise, rational traits such as goal clarity and performance focus may play a more pronounced role in innovation execution in these contexts.

These contextual nuances also help explain the indicator reliability results discussed in Chapter 4. Specifically, two indicators from the HCT construct had to be dropped due to weak loadings, suggesting that certain hierarchical elements may not be fully representative of the construct in our sample. One indicator under the RCT construct also demonstrated low loading, yet retained due to acceptable model fit. These early signs of trait underrepresentation foreshadow the statistical differences observed in H3 and H4.

5.3 Original Contributions: Hypotheses H5–H8

Table 14: Hypotheses H5–H8 in This Study

Hypothesis	Relationship	As Found in This Study
H5	Remote Work × Developmental Trait → Innovation	Not supported
H6	Remote Work × Group Trait → Innovation	Not supported
H7	Remote Work × Hierarchical Trait → Innovation	Not supported
H8	Remote Work × Rational Trait → Innovation	Not supported

Hypotheses H5 through H8 were developed to explore whether remote work moderates the relationship between organizational cultural traits and innovation. None of these hypotheses were supported. The absence of moderation can be interpreted through a benchmarking lens. Notably, Büschgens et al. (2013) did not consider remote work, likely because their data predates the COVID-19 pandemic. In contrast, this study explicitly integrates remote work into the model. Despite this key difference, outcomes for H1 and H2 align with Büschgens et al. (2013), suggesting that remote work does not meaningfully alter how developmental and group cultural traits influence innovation. If remote work had a strong moderating effect, we would expect divergence in these relationships but such divergence was not observed. For H3 and H4, where findings deviated from literature, the absence of moderation effects (H7 and H8) points to industry-specific or geographic context as more plausible explanatory factors than remote work presence.

Several theoretical explanations may further account for these findings. First, the result may reflect a cultural resilience hypothesis, particularly in emerging economies like Indonesia and Cameroon. In these settings, hierarchical structures, collectivist norms, and deeply ingrained informal dynamics may persist despite changes in work modality. As a result, remote work might not exert enough influence to shift established innovation pathways (Schein, 2010).

Second, the digital adaptation thesis offers additional insight. The demographic profile of respondents primarily aged 18 to 34 suggests a digitally fluent population. For such digital natives, the difference between remote and on-site work may have limited behavioral consequences, as they are equally capable of engaging in innovation-oriented tasks in both environments (Prensky, 2001; Bennett & Maton, 2010).

Third, the construct of remote work was treated as a general condition without accounting for contextual factors such as intensity of remote work, level of autonomy, or quality of managerial support. According to Hafermalz and Riemer (2020), remote work impacts culture through psychological channels such as trust and communication, which may not have been captured in this study's model. The lack of these mediating mechanisms may explain the non-significant moderation effects.

Fourth, the remote work normalization hypothesis argues that post-pandemic normalization of hybrid and remote models has rendered such arrangements unremarkable. As remote work becomes a standard feature of organizational life, its influence as a moderator may diminish. It is possible that cultural traits and innovation processes have already adapted to this reality, reducing the marginal impact of remote work (Choudhury et al., 2023).

Taken together, these findings reinforce the idea that cultural traits exert consistent influence on innovation across varying work environments. The strong agreement with H1 and H2, and the contextual deviation in H3 and H4, further support the model's robustness. The study's exclusive focus on the technology sector may also emphasize the role of certain cultural traits, such as rational and hierarchical, more than in broader analyses. Overall, the absence of moderation effects underscores the need for industry- and context-sensitive interpretation of organizational dynamics and highlights the importance of integrating nuanced theoretical perspectives in future research.

Summary

The findings suggest that remote work, while conceptually significant, may not operate as a standalone moderator in shaping how organizational culture influences innovation at least not in the contexts of Indonesia and Cameroon. Theoretical explanations such as cultural resilience, digital adaptation, construct simplification, and normalization provide meaningful insights into this result. These conclusions are strengthened by benchmarking with prior literature, especially Büschgens et al. (2013), and highlight a critical need for future research to explore how remote work interacts with other organizational and psychological factors to influence innovation outcomes.

5.4 Limitations and Future Work

As with any research project, this study has several limitations that must be acknowledged to place the findings into proper context and identify opportunities for future inquiry.

First, the study employed a cross-sectional research design, which limits the ability to establish causal relationships between organizational culture traits, remote work, and innovation. While the statistical techniques employed, such as PLS-SEM, are robust in testing relationships among latent variables, a longitudinal study could better capture the evolution of these relationships over time especially given the dynamic and evolving nature of remote work adoption in emerging economies.

Second, the geographic and sectoral focus of the study, while offering depth and specificity, inherently limits generalizability. The study focused exclusively on technology firms in Indonesia and Cameroon, which may not fully represent other industries or regions within the emerging economy category. For instance, cultural interpretations and the operationalization of remote work can vary greatly across sectors such as healthcare, education, or public administration, all of which may yield different outcomes in relation to innovation.

Third, the use of self-reported survey data, while valuable for gathering insights from organizational members, can be prone to response bias. Participants may provide socially desirable answers or misinterpret survey items despite the careful selection of validated instruments. Additionally, although the OCAI and SOQ are well-established tools in organizational research, certain constructs particularly the hierarchical and rational cultural traits showed limitations in indicator reliability. Two indicators within the HCT construct were dropped, and one RCT indicator displayed low loading, suggesting some issues in construct representation.

Fourth, while the study hypothesized and tested for the moderating effects of remote work, it treated remote work as a general construct. The degree of remote work intensity, the nature of remote work policies, and the extent of digital infrastructure across firms were not measured explicitly. These nuances could influence how remote work interacts with cultural traits. Future studies may benefit from a more nuanced operationalization of remote work distinguishing between hybrid models, full-time remote, and flexible arrangements.

Finally, the post-pandemic context may have introduced transitional effects that are not fully captured within the scope of a single time-point study. As organizations continue to refine and normalize remote work practices, future studies may observe different outcomes regarding its interaction with culture and innovation.

5.4.1 Suggestions for Future Research

Suggestion 1: Methodological Expansion

1.1 Conduct longitudinal studies:

The dynamic nature of organizational behavior necessitates longitudinal approaches capable of capturing temporal shifts in how remote work influences the relationship between organizational culture and innovation. Such studies would enable the observation of evolving cultural adaptations, the sustainability of innovation practices, and the long-term organizational outcomes associated with remote work policies. This is particularly critical within technology-driven environments where operational models and innovation strategies are subject to rapid transformation.

1.2 Incorporate qualitative methodologies:

A mixed-methods or purely qualitative design employing interviews, focus groups, or ethnographic techniques could deepen the understanding of organizational nuances that quantitative instruments may overlook. Such methods would be particularly useful for uncovering tacit cultural assumptions, informal communication networks, and leadership perceptions that mediate the success or failure of innovation initiatives in remote or hybrid environments.

Suggestion 2: Contextual and Sectoral Diversity

***2.1 Expand geographic and sectoral coverage*:**

While this study concentrated on the technology sectors of Indonesia and Cameroon, future research would benefit from expanding both geographical and industrial scopes. Incorporating diverse emerging economies such as those in South Asia, Latin America, or other Sub-Saharan African countries would offer a richer understanding of regional cultural distinctions and

infrastructural disparities. Moreover, examining non-technology sectors, including manufacturing, healthcare, and public administration, may yield insights into how varying sectoral demands shape the culture-innovation dynamic under remote work conditions.

2.2 Examine generational and workforce diversity effects:

Demographic variables including generational cohort, digital nativity, and cultural background should be incorporated as potential moderators or mediators. Understanding how different groups within the workforce engage with organizational culture and remote work arrangements may offer critical insights into customizing innovation strategies across diverse employee profiles.

Suggestion 3: Remote Work Operationalization

3.1 Develop nuanced remote work measures:

The concept of remote work warrants a more refined measurement framework. Future studies should move beyond binary distinctions (i.e., remote vs. non-remote) and assess gradients of remote work intensity, voluntariness, technological accessibility, and managerial support structures. By distinguishing between hybrid, fully remote, and flexible modalities, researchers could better assess how the structure and support of remote work impact cultural integration and innovation performance.

3.*2 Assess organizational resilience and crisis response:*

In the wake of the COVID-19 pandemic and future systemic disruptions, resilience has emerged as a core organizational capability. Investigating how remote work influences the development of adaptive cultures, strategic agility, and innovation continuity during crises could offer valuable foresight for leaders managing uncertainty in volatile contexts.

Suggestion 4: Theoretical Model Enrichment

4.1 Investigate mediating mechanisms:

Future inquiries should examine potential mediators that channel the effects of organizational culture and remote work toward innovation outcomes. Constructs such as organizational learning, psychological safety, digital leadership, and intra-organizational trust may serve as key explanatory mechanisms. A mediational framework would add depth to the current structural model and clarify the internal processes that sustain innovation within distributed work settings.

By advancing these scholarly avenues, future research can contribute to a more holistic and academically rigorous understanding of how remote work environments influence cultural and innovation dynamics, particularly in underexplored, high-growth regions.

5.5 Implications of the Study

A. Industry Implications (Managerial Perspective)

1. ***Cultural Tailoring in Remote Settings:***
   One of the most salient implications for practitioners is the reinforced understanding that innovation in remote and hybrid contexts is culturally contingent. This study demonstrates that both developmental and group-oriented cultural traits are significant predictors of organizational innovation. Managers must therefore go beyond surface-level adjustments to remote infrastructure and intentionally foster a culture of adaptability, empathy, and shared purpose. In contrast to traditional models that position innovation as a product of resources or R&D investment, this research shows that cultural cohesion especially trust and collaboration is even more vital when teams are distributed. Investment in digital collaboration tools, virtual team-building strategies, and open communication channels becomes an imperative rather than a luxury. This aligns with Hafermalz and Riemer (2020), who emphasized the importance of digital cultures that prioritize human connection in virtual workspaces.
2. ***Reconsidering Hierarchical Structures:***
   While dominant theories (e.g., Cameron and Quinn, 2006) often classify hierarchical organizational cultures as inhibitors of innovation, the positive relationship found in this study compels a re-examination. Particularly in emerging economies like Indonesia and Cameroon, where regulatory compliance, managerial oversight, and task clarity are

paramount, structured environments may facilitate innovation by reducing ambiguity and increasing operational discipline. These findings suggest that hierarchical cultures if not overly rigid can coexist with innovation, particularly incremental forms. For practitioners, this means leveraging hierarchy to instill efficiency while enabling teams to innovate within set boundaries. This nuance adds depth to earlier critiques by Damanpour (1991), suggesting that hierarchy is not universally stifling but context-dependent.

3. ***Policy Design for Remote Work Integration:***
   The non-significant moderating role of remote work implies that cultural factors may remain robust regardless of physical work arrangements. This presents an opportunity for firms to decouple innovation success from traditional office-centric thinking. Managers should thus design remote work policies that reinforce, rather than undermine, cultural strengths. This includes fostering shared values through virtual onboarding, instituting digital leadership training, and deploying remote engagement surveys to monitor morale and alignment. In essence, the challenge is not whether remote work permits innovation but how remote policies can nurture cultural cohesion that naturally drives innovation. Drawing from Choudhury et al. (2023), policies that support autonomy and trust can catalyze creativity, even in dispersed teams.

4. ***Emerging Economy Focus:***
   For firms in emerging economies, where infrastructure, social capital, and leadership norms differ from Western contexts, these findings suggest the importance of localizing remote work strategies. Innovation-supportive culture does not emerge automatically in digital environments. Managers in these settings must embed cultural values through inclusive digital practices, localized leadership training, and investment in tech access and literacy.

5. ***SME Relevance and Informal Leadership:***
   Given that many participating firms were small to medium-sized enterprises (SMEs), the results underline the importance of informal leadership and peer dynamics in innovation. SMEs often lack formal HR systems and must rely on cultural cohesion to maintain creativity and motivation. Practical strategies include peer recognition platforms, cross-functional project teams, and rotational leadership roles that empower employees while maintaining alignment with firm goals.

Conclusion for Managers: Innovation in a remote work era is less about technology and more about cultural intentionality. For remote work to be sustainable and innovation-enabling, managers must prioritize cultural alignment, digital trust-building, and flexible governance systems tailored to local realities.

B. Policy Implications (Macro-Level Perspective)

1. ***Government Support for Remote Work Enablement:***
   Policymakers in emerging economies should support remote work integration by investing in digital infrastructure, subsidizing remote readiness programs for SMEs, and establishing national digital inclusion frameworks. The experiences of Indonesian and Cameroonian tech firms show that innovation thrives when remote work is embedded within broader economic development strategies.
2. ***Education and Digital Literacy:***
   National education policies should integrate digital collaboration skills, remote communication competencies, and cross-cultural innovation training at tertiary levels. By preparing students for virtual work environments, governments can enhance workforce readiness for global tech markets.
3. ***Incentivizing Digital Innovation:***
   Tax incentives, public-private accelerators, and remote innovation grants can stimulate experimentation among startups. These interventions help embed innovation capacity across a wider range of tech firms, especially those outside urban hubs.
4. ***Labor Regulations and Hybrid Work Standards:***
   Governments should also provide legal clarity around hybrid work standards, including employee protections, digital ergonomics, and remote work rights. Such regulation provides structure and equity while preserving the flexibility that makes remote work attractive.

In sum, this study not only highlights the resilience of cultural traits in digital work settings but also provides a framework for translating academic insight into managerial and policy actions within emerging economy contexts.

5.6 Academic and Theoretical Contributions

1. ***Extension of the Competing Values Framework (CVF):***
   This research contributes to the theoretical evolution of the CVF by testing its validity in the dual-contexts of Indonesia and Cameroon, two culturally distinct yet economically comparable emerging markets. The results confirm the utility of CVF beyond Western-centric environments, suggesting that its dimensions developmental, group, hierarchical, and rational are not only analytically valid but predictive of innovation across diverse geographies. Moreover, the unexpected positive influence of hierarchical traits expands the theoretical boundaries of CVF. This aligns partially with findings from Büschgens et al. (2013), but it adds a new dimension by situating CVF within post-pandemic, digitally-enabled workspaces a context that prior literature had not fully considered.

2. ***Integration of Remote Work in Innovation Models:***
   This study is among the few to explicitly introduce remote work as a moderating construct in the relationship between organizational culture and innovation. Although the moderation effect was not statistically significant, the methodological innovation remains important. It lays the groundwork for refining future models that examine environmental variables like work modality. Remote work, a defining feature of post-COVID organizational life, must be analytically incorporated in organizational studies to reflect real-world dynamics. As such, this thesis advances the field by operationalizing remote work not as a control variable but as a strategic factor of interest.

3. ***Empirical Evidence from Underrepresented Contexts:***
   A major academic contribution of this work lies in its geographical and contextual focus. By centering Indonesia and Cameroon regions often excluded from mainstream organizational behavior research this study provides rare empirical insight into how culture and innovation interact in settings marked by digital inequality, economic volatility, and diverse institutional logics. The data challenge Western-biased assumptions and call for the development of theories that are inclusive of non-Western innovation systems. In this respect, the study echoes the call by George et al. (2016) for contextually embedded management research, especially in emerging markets where organizational practices are shaped by a distinct blend of tradition, necessity, and modernization.

Summary

This study set out to explore the impact of remote work on the relationship between organizational culture and innovation in the technology sectors of Indonesia and Cameroon. By integrating the Competing Values Framework (CVF) and the Situational Outlook Questionnaire (SOQ), the research offered empirical insights into how different cultural traits developmental, group, hierarchical, and rational influence innovation. Notably, developmental and group traits were found to be significant positive predictors of innovation, aligning with prior literature. Unexpectedly, hierarchical and rational traits also showed significant positive effects, suggesting contextual nuances in emerging markets where structural clarity and strategic focus may enhance rather than hinder innovation.

Despite extensive theorization, remote work did not moderate the relationship between organizational culture and innovation, indicating that cultural traits may operate independently of physical work arrangements. This finding, coupled with benchmarking against established studies such as Büschgens et al. (2013), reinforces the robustness of cultural influences across different organizational settings. The study contributes theoretically by extending CVF into new geographic contexts and incorporating remote work into innovation models. Practically, it provides valuable guidance for managers on sustaining innovation through cultural alignment in remote work environments. Ultimately, it calls for continued scholarly engagement with context-specific, longitudinal, and interdisciplinary research to better understand the evolving dynamics of work, culture, and innovation.

6. Conclusion

This study set out to explore the impact of remote work on the relationship between organizational culture and innovation in the technology sectors of Indonesia and Cameroon. By integrating the Competing Values Framework (CVF) and the Situational Outlook Questionnaire (SOQ), the research offered empirical insights into how different cultural traits developmental, group, hierarchical, and rational influence innovation. Notably, developmental and group traits were found to be significant positive predictors of innovation, aligning with prior literature. Unexpectedly, hierarchical and rational traits also showed significant positive effects, suggesting contextual nuances in emerging markets where structural clarity and strategic focus may enhance rather than hinder innovation.

Despite extensive theorization, remote work did not moderate the relationship between organizational culture and innovation, indicating that cultural traits may operate independently of physical work arrangements. This finding, coupled with benchmarking against established studies such as Büschgens et al. (2013), reinforces the robustness of cultural influences across different organizational settings. In conclusion, this research advances both academic scholarship and practical understanding of how organizational culture and remote work interact to shape innovation outcomes in emerging economies. Through the strategic application of the Competing Values Framework and the Situational Outlook Questionnaire, the study offers robust empirical evidence from underrepresented contexts. Its findings challenge traditional assumptions especially regarding hierarchical traits and open new avenues for theorizing innovation culture in non-Western, technology-driven environments.

At the same time, the lack of a significant moderating effect of remote work offers a nuanced view: cultural traits appear to exert their influence on innovation irrespective of working arrangements. This insight is not only timely in a post-pandemic world but also essential for future research, which must now delve deeper into the contextual and organizational mechanisms that sustain innovation in increasingly hybrid or virtual work settings. As organizations continue to transform, this study provides a strong foundation for both scholarly exploration and managerial action aimed at fostering resilient, innovation-oriented cultures. by extending CVF into new geographic contexts and incorporating remote work into innovation models. Practically, it provides valuable guidance for managers on sustaining innovation through cultural alignment in remote work environments. Ultimately, it calls for continued scholarly engagement with context-specific, longitudinal, and interdisciplinary research to better understand the evolving dynamics of work, culture, and innovation.

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List of Appendices:

- ✓ ***Questionnaire (QR Code)***
- ✓ ***Descriptive Statistics***
- ✓ ***Cross loading***

Appendix A: Research Questionnaire (QR Code)

Appendix B: Descriptive Statistics

Name	Mean	Median	SD	Excess kurtosis	Skewness
REW	2.702	3.000	1.395	-1.384	0.117
DTF	3.218	3.000	1.218	-0.815	-0.296
DTR	3.452	4.000	1.162	-0.476	-0.474
DTG	3.468	4.000	1.179	-0.464	-0.513
DTA	3.593	4.000	1.091	-0.455	-0.448
GTH	3.564	4.000	1.145	-0.459	-0.493
GTS	3.615	4.000	1.174	-0.216	-0.710
GTM	3.484	4.000	1.098	-0.372	-0.434
GTC	3.644	4.000	1.114	-0.223	-0.645
RTP	3.458	4.000	1.195	-0.608	-0.490
RTG	3.365	4.000	1.256	-0.790	-0.434
RTE	3.577	4.000	1.188	-0.513	-0.599
RTR	3.375	4.000	1.194	-0.740	-0.382
HTI	3.587	4.000	1.151	-0.242	-0.649
HTM	3.593	4.000	1.131	-0.078	-0.739
HTC	3.606	4.000	1.141	-0.347	-0.613
HTS	3.567	4.000	1.125	-0.160	-0.651
ICI	3.474	4.000	1.132	-0.492	-0.516
IFR	3.404	4.000	1.218	-0.579	-0.566
ITO	3.452	4.000	1.143	-0.494	-0.458
IIT	3.635	4.000	1.119	-0.137	-0.693
IPH	3.609	4.000	1.158	-0.337	-0.628
ICO	3.503	4.000	1.230	-0.569	-0.553
IIS	3.718	4.000	1.159	-0.078	-0.811
IDE	3.622	4.000	1.106	0.040	-0.725
IRT	3.587	4.000	1.232	-0.546	-0.578

Appendix C: Cross loading

	DCT	GCT	HCT	INN	RCT	REW	REW x DCT	REW x HCT	REW x GCT	REW x RCT
DTA	0.712	0.542	0.411	0.413	0.409	0.045	-0.188	-0.183	-0.160	-0.117
DTF	0.756	0.457	0.341	0.481	0.377	0.055	-0.121	-0.191	-0.167	-0.140
DTG	0.764	0.508	0.514	0.451	0.486	0.050	-0.181	-0.268	-0.220	-0.175
DTR	0.806	0.460	0.462	0.512	0.426	0.071	-0.173	-0.186	-0.217	-0.120
GTC	0.462	0.744	0.523	0.536	0.523	0.074	-0.200	-0.255	-0.202	-0.195
GTH	0.552	0.731	0.495	0.527	0.485	0.105	-0.141	-0.234	-0.187	-0.167
GTM	0.469	0.765	0.502	0.477	0.468	0.061	-0.155	-0.231	-0.149	-0.119
GTS	0.441	0.763	0.475	0.511	0.447	0.106	-0.273	-0.302	-0.165	-0.161
HTC	0.415	0.491	0.755	0.483	0.531	0.063	-0.217	-0.217	-0.299	-0.194
HTI	0.396	0.486	0.757	0.508	0.579	0.061	-0.174	-0.152	-0.216	-0.091
HTM	0.449	0.514	0.795	0.498	0.558	0.096	-0.206	-0.210	-0.247	-0.080
HTS	0.452	0.518	0.712	0.501	0.477	0.049	-0.232	-0.241	-0.261	-0.158
ICI	0.509	0.517	0.507	0.674	0.534	0.059	-0.181	-0.135	-0.148	-0.091
IDE	0.411	0.541	0.456	0.711	0.515	0.070	-0.161	-0.178	-0.172	-0.157
IFR	0.382	0.389	0.415	0.663	0.344	0.014	-0.195	-0.208	-0.197	-0.130
IIS	0.462	0.482	0.450	0.735	0.527	0.059	-0.217	-0.156	-0.213	-0.162
IIT	0.399	0.448	0.484	0.717	0.434	0.062	-0.202	-0.156	-0.204	-0.133
IPH	0.402	0.469	0.441	0.649	0.401	0.130	-0.221	-0.185	-0.228	-0.121
ITO	0.380	0.444	0.424	0.686	0.413	0.080	-0.073	-0.085	-0.110	-0.022
REW	0.073	0.116	0.089	0.099	0.130	1.000	-0.002	-0.029	0.004	-0.025
RTE	0.441	0.541	0.518	0.529	0.790	0.090	-0.123	-0.061	-0.182	-0.086
RTP	0.383	0.494	0.523	0.485	0.746	0.115	-0.172	-0.213	-0.172	-0.168
RTR	0.483	0.480	0.630	0.546	0.818	0.102	-0.132	-0.133	-0.144	-0.073
REW x DCT	-0.216	-0.257	-0.274	-0.259	-0.180	-0.002	1.000	0.666	0.692	0.648
REW x GCT	-0.252	-0.236	-0.338	-0.262	-0.210	0.004	0.692	0.706	1.000	0.701
REW x HCT	-0.271	-0.341	-0.271	-0.227	-0.170	-0.029	0.666	1.000	0.706	0.768
REW x RCT	-0.181	-0.216	-0.173	-0.170	-0.136	-0.025	0.648	0.768	0.701	1.000