
AgreementTech: Innovation of Employment Agreements Based on Digital Leadership in the Era of Disruption in West Sumatera

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Abstract

This study investigates the innovation of AgreementTech in employment agreements within the disruption era, focusing on the socio-cultural and legal context of West Sumatera. Digital transformation has reshaped employment relations through electronic contracts and technology-based systems; however, legal certainty, organizational readiness, and leadership adaptability remain significant challenges. Prior studies show that Indonesia's legal framework has not fully accommodated digital contracting, especially regarding electronic evidence, digital signature validity, and the shift from traditional agreements toward automated mechanisms. These findings highlight conceptual and regulatory gaps that require continued academic attention. The purpose of this study is to analyze the influence of the Disruption Era and digital leadership on AgreementTech based employment agreement innovation. A mixed-methods approach with a sequential explanatory design was used, beginning with quantitative data collected through surveys of employees and company managers, followed by qualitative data obtained through in-depth interviews with organizational leaders, human resource practitioners, and labor law experts. The results show that the Disruption Era significantly affects AgreementTech adoption, while digital leadership does not exert a direct influence. Nonetheless, digital leadership plays an indirect role by strengthening organizational readiness to respond to disruptive changes, thereby facilitating the use of AgreementTech. From a legal standpoint, the study emphasizes the need to reconstruct contract law norms to more effectively accommodate electronic agreements, particularly concerning digital signature regulation and the evidentiary status of digital contracts in judicial processes. Overall, the interaction between disruptive pressures, digital leadership, and legal reform provides the foundation for effective AgreementTech implementation.

INTRODUCTION

Digital transformation has fundamentally reconfigured multiple dimensions of human activity, particularly within the domain of employment relations. Globally, the expansion of flexible work arrangements, the proliferation of gig-based labor models, and the integration of advanced technologies such as artificial intelligence (AI), blockchain, and cloud-driven human

resource systems have compelled organizations to recalibrate the formulation, administration, and enforcement of employment agreements.¹ In Indonesia, this technological acceleration became markedly pronounced following the COVID-19 pandemic, during which digital signatures, remote onboarding mechanisms, and virtual employment arrangements transitioned from provisional solutions into institutionalized administrative practices.² Within this shifting landscape, West Sumatera represents a distinctive socio-cultural environment in which customary norms intersect with emerging technological imperatives, thereby shaping unique opportunities and constraints for digital contractual reform.

The urgency of transforming employment agreements is further reinforced by Indonesia's legal framework governing contract formation. Under Article 1320 of the Indonesian Civil Code (KUHPerdata), all agreements including electronic employment contracts must meet the legal requirements of consent, capacity, a specific object, and a lawful cause.³ Moreover, Article 1338 KUHPerdata establishes the principle of freedom of contract, enabling parties to adopt digital contractual mechanisms as long as they comply with existing legal norms.⁴ In the digital sphere, Article 5 of the Electronic Information and Transactions Law (UU ITE) affirms that electronic documents constitute valid legal evidence,⁵ while Article 11 UU ITE grants full legal validity to electronic signatures.⁶ Despite this progressive framework, inconsistencies remain between technological development and legal interpretation, particularly in labor-related contractual disputes.

From a labor law standpoint, digital employment agreements are permissible under Law No. 13 of 2003 on Manpower, which recognizes written contracts in both physical and electronic formats.⁷ This provision is further reinforced by Law No. 11 of 2020 on Job Creation, which modernizes contract governance to accommodate digital practices.⁸ In addition, Government Regulation No. 71 of 2019 on Electronic Systems and Transactions mandates secure, accountable, and auditable electronic systems requirements that align with the

¹ World Economic Forum, *The Future of Jobs Report 2023* (Geneva: World Economic Forum, 2023), 14.

² Kementerian Ketenagakerjaan Republik Indonesia, *Laporan Tahunan Ketenagakerjaan Indonesia 2022* (Jakarta: Kemnaker RI, 2022), 22.

³ Indonesia, *Kitab Undang-Undang Hukum Perdata*, Pasal 1320.

⁴ Indonesia, *Kitab Undang-Undang Hukum Perdata*, Pasal 1338.

⁵ Indonesia, Undang-Undang Nomor 11 Tahun 2008 tentang *Informasi dan Transaksi Elektronik*, Pasal 5.

⁶ Indonesia, Undang-Undang Nomor 11 Tahun 2008 tentang *Informasi dan Transaksi Elektronik*, Pasal 11.

⁷ Indonesia, Undang-Undang Nomor 13 Tahun 2003 tentang *Ketenagakerjaan*.

⁸ Indonesia, Undang-Undang Nomor 11 Tahun 2020 tentang *Cipta Kerja*.

technical architecture underlying AgreementTech.⁹ Nonetheless, in practice, courts frequently continue to favor printed documents and handwritten signatures as primary evidence, revealing a gap between normative allowances and institutional culture in Indonesian labor adjudication.

Research on digitalization of employment contracts has evolved, yet most studies remain focused on administrative or technical aspects rather than the institutional and legal implications of digital contracting. Putri and Nugroho (2022) highlight that limited digital literacy and infrastructural disparities hinder the adoption of digital contract systems in Indonesia.¹⁰ Strohmeier (2020) and Bondarouk and Brewster (2016) emphasize the role of digital leadership in organizational digital transformation, but their studies do not explicitly examine the intersection between digital leadership and technology-driven contract systems such as AgreementTech.¹¹ Meanwhile, the International Labour Organization (2021) identifies persistent regulatory gaps particularly concerning electronic evidence and digital authentication that affect the enforceability of digital employment agreements.¹² In the Indonesian context, Fikrina et al. (2025) show that legal institutions continue to privilege physical documents over electronic contracts, resulting in a heavier evidentiary burden for digital agreements.¹³ Despite these contributions, no prior study integrates technological, leadership, regulatory, and socio-cultural dimensions within a unified analysis. This gap underscores the novelty of the present study, which examines how the disruption era and digital leadership jointly shape the implementation of AgreementTech in West Sumatera.

Existing scholarly discourse on digital transformation within human resource management consistently demonstrates that technological adoption alone is insufficient to generate meaningful institutional outcomes without corresponding shifts in leadership practices and organizational culture.¹⁴ Although several studies acknowledge the strategic significance of digital leadership in facilitating technological adaptation, empirical examinations that explicitly link digital leadership with AgreementTech within Indonesia's labor governance

⁹ Indonesia, Peraturan Pemerintah Nomor 71 Tahun 2019 tentang *Penyelenggaraan Sistem dan Transaksi Elektronik*.

¹⁰ Putri, D. A., and Y. Nugroho, "Digitalisasi Kontrak Kerja dan Tantangan Implementasinya," *Jurnal Hukum dan Teknologi* 5, no. 2 (2022): 58–70.

¹¹ Christian Strohmeier, "Digital Human Resource Management: A Conceptual Clarification," *German Journal of Human Resource Management* 34, no. 3 (2020): 345–365.

¹² International Labour Organization. *World Employment and Social Outlook 2021*. Geneva: ILO, 2021, 55.

¹³ Fikrina, Aulia, Meissy Putri Deswari, Yossiramah Sucia, and Amanda Silvia Putri. "The Transformation of Contract Law in the Era of Digital Contracts in Indonesia." *Melayunesia Law* 9, no. 1 (2025): 1–15.

¹⁴ Tanya Bondarouk and Chris Brewster, "Conceptualising the Future of HRM and Technology Research," *The International Journal of Human Resource Management* 27, no. 21 (2016): 2653.

context and especially within West Sumatera remain notably scarce. This research gap highlights the need for a more nuanced inquiry, given that leadership plays a pivotal role in cultivating digital trust, shaping institutional readiness, and mediating culturally embedded expectations regarding contractual relationships.¹⁵

The urgency of transforming employment agreements is further amplified by the increasing number of labor disputes arising from ambiguous, incomplete, or non-transparent contractual clauses. Previous studies indicate that the lack of digital literacy and uneven organizational readiness contributes to dispute vulnerability in digital employment arrangements.¹⁶ In this context, AgreementTech integrating automation, verifiable digital authentication, audit trails, and traceability offers a modern contractual infrastructure capable of enhancing legal certainty and administrative efficiency. However, the implementation of AgreementTech in Indonesia remains uneven due to inadequate digital infrastructure, varying levels of technological literacy, and persistent organizational resistance to technological reform.¹⁷

The socio-cultural configuration of West Sumatera, which emphasizes collectivism, deliberative consensus, and strong customary norms, often stands in tension with the operational logics of digital contracting systems. Traditional reliance on written agreements, verbal assurances, and customary validation underscores a preference for relational and face-to-face negotiations.¹⁸ These dynamics raise a critical question: to what extent can digital leadership reconcile the normative demands of technological innovation with the deeply embedded cultural expectations governing employment relations in West Sumatera?

To address this question, the present study adopts a mixed-methods design. Quantitative data provide measurable insights into levels of organizational readiness and the patterns of AgreementTech adoption, whereas qualitative data offer deeper contextual interpretations of leadership behavior and socio-cultural responses. The sequential explanatory strategy ensures that statistical patterns identified in the quantitative phase are subsequently elaborated and

¹⁵ Omar A. El Sawy, Pernille Kræmmergaard, Henrik Amsinck, and Anne Lise Vinther, "How LEGO Built the Foundations and Enterprise Capabilities for Digital Leadership," *MIS Quarterly Executive* 15, no. 2 (2016): 143.

¹⁶ Putri, D. A., and Y. Nugroho, "Digitalisasi Kontrak Kerja dan Tantangan Implementasinya," *Jurnal Hukum dan Teknologi* 5, no. 2 (2022): 58–70.

¹⁷ International Labour Organization, *World Employment and Social Outlook 2021* (Geneva: ILO, 2021), 55.

¹⁸ Muhammad Zainuddin Nasution, "Kearifan Lokal dan Tantangan Modernisasi dalam Budaya Kerja Masyarakat Minangkabau," *Jurnal Sosial dan Budaya* 12, no. 2 (2020): 48.

clarified through qualitative narratives.¹⁹ This approach is methodologically appropriate for a research problem situated at the intersection of technological, legal, organizational, and cultural dimensions.

Primary data were collected in two phases. The quantitative phase employed purposive sampling to survey employees and managers with direct involvement in digitized work processes, while the qualitative phase engaged organizational leaders, HR practitioners, and labor-technology experts through in-depth interviews. These interviews focused on policy interpretation, practical experiences, and institutional challenges associated with digital contractual implementation in the regional context.

Quantitative analysis, conducted using descriptive statistics and regression modeling, identifies key determinants shaping AgreementTech adoption. Qualitative data, analyzed through thematic methods²⁰ reveal patterns concerning leadership dynamics, cultural resistance, and perceptions toward digital employment agreements. Methodological triangulation reinforces the robustness of findings, while member checking enhances the credibility of qualitative interpretations. A persistent *das sein das sollen* gap emerges across the findings. The empirical reality (*das sein*) marked by fragmented digital practices and uneven adoption of electronic agreements contrasts with the normative ideal (*das sollen*) of a legally secure, technologically integrated, and culturally attuned employment agreement framework. This discrepancy signals an urgent need to refine Indonesia's labor-contracting norms to keep pace with technological developments while maintaining sensitivity to regional socio-cultural contexts.

The *state of the art* of this study lies in its integration of three distinct yet interrelated dimensions: technological innovation (AgreementTech), leadership behavior (digital leadership), and socio-cultural characteristics specific to West Sumatera. Existing literature tends to examine these elements separately; hence, the present study advances the field by situating them within a unified analytical framework relevant to Indonesian labor law reform. Consequently, the primary research question guiding this study is: To what extent do the disruption era and digital leadership influence the implementation of AgreementTech in employment agreements within the socio-cultural context of West Sumatera?

¹⁹ John W. Creswell and Vicki L. Plano Clark, *Designing and Conducting Mixed Methods Research*, 3rd ed. (Thousand Oaks, CA: SAGE Publications, 2018), 169.

²⁰ Virginia Braun and Victoria Clarke, "Using Thematic Analysis in Psychology," *Qualitative Research in Psychology* 3, no. 2 (2006): 80.

The central argument proposed herein is that the successful implementation of AgreementTech requires the synergy of technological readiness, transformative leadership, and adaptive legal reform. AgreementTech should be understood not merely as a digital solution, but as a legal-institutional innovation whose effectiveness is contingent upon organizational capacity, regulatory clarity, and cultural acceptance. Furthermore, this study posits that the socio-cultural values of West Sumatera particularly those relating to transparency, collective deliberation, and mutual accountability can be embedded within the digital architecture of AgreementTech. In this manner, digital leadership becomes essential not only for operational transformation but also for safeguarding the cultural legitimacy of digital contractual practices.

In conclusion, the transformation of employment agreements must be interpreted as both a technological and normative shift. The insights presented in this introduction establish the analytical groundwork for exploring how legal norms, cultural frameworks, organizational behaviors, and technological imperatives converge in shaping the modernization of employment agreements in West Sumatera.

This study employs a *mixed-methods* approach with a *sequential explanatory* design, integrating quantitative and qualitative methods in two distinct phases. The first phase consists of quantitative research conducted through surveys administered to employees and company managers in West Sumatera who are directly involved in digitalized work processes. The survey aims to measure the influence of the Disruption Era and digital leadership on AgreementTech based employment agreement innovation. The second phase consists of qualitative research through in-depth interviews with organizational leaders, human resource practitioners, and labor law experts to obtain richer contextual interpretations that explain and elaborate on the quantitative findings.

From a legal research perspective, this study adopts several approaches, namely: (1) the statute approach, used to examine the normative framework governing digital contracts, including the Indonesian Civil Code (KUHPdata),²¹ the Electronic Information and Transactions Law (UU ITE),²² the Manpower Law,²³ the Job Creation Law,²⁴ and Government

²¹ Indonesia, *Kitab Undang-Undang Hukum Perdata*, Pasal 1313, 1320, dan 1338.

²² Indonesia, Undang-Undang Nomor 11 Tahun 2008 tentang *Informasi dan Transaksi Elektronik*, Pasal 5 dan 11.

²³ Indonesia, Undang-Undang Nomor 13 Tahun 2003 tentang *Ketenagakerjaan*.

²⁴ Indonesia, Undang-Undang Nomor 11 Tahun 2020 tentang *Cipta Kerja*.

Regulation No. 71 of 2019;²⁵ (2) the conceptual approach, employed to analyze key theoretical concepts such as AgreementTech, digital leadership, and digital transformation in employment agreements; and (3) the case approach, used to review legal practices and dispute resolution cases involving electronic documents and digital signatures in employment relations.²⁶

The study draws on both primary and secondary data. Primary data were collected through surveys and in-depth interviews, while secondary data were obtained from statutory regulations, court decisions related to electronic evidence, scholarly articles, official reports from international institutions such as the ILO and WEF, and other relevant legal literature. Quantitative data were analyzed using *Partial Least Squares Structural Equation Modeling* (PLS-SEM),²⁷ whereas qualitative data were analyzed using *thematic analysis*.²⁸ The legal analysis follows a normative juridical method to assess the compatibility between AgreementTech implementation and Indonesian positive law. Methodological triangulation was employed to enhance the validity of the findings, while *member checking* was conducted to strengthen the credibility of qualitative interpretations.²⁹

DISCUSSION

The Influence of the Disruption Era and Digital Leadership on AgreementTech

The empirical findings of this study demonstrate that the disruption era exerts a significant influence on the implementation of AgreementTech in employment agreements in West Sumatera. From a regulatory perspective, the acceleration of digital transformation requires stronger legal clarity concerning the validity of electronic contracts. This includes the need to reinforce certified electronic signatures and procedures for digital evidence verification in the labor dispute process.³⁰ Such legal reinforcement is essential to ensure that both

²⁵ Indonesia, Peraturan Pemerintah Nomor 71 Tahun 2019 tentang *Penyelenggaraan Sistem dan Transaksi Elektronik*.

²⁶ Fikrina, Aulia, Meissy Putri Deswari, Yossiramah Sucia, and Amanda Silvia Putri, "The Transformation of Contract Law in the Era of Digital Contracts in Indonesia," *Melayunesia Law* 9, no. 1 (2025): 1–15.

²⁷ Hair, Joseph et al., *Partial Least Squares Structural Equation Modeling (PLS-SEM): An Introduction*. Thousand Oaks: Sage, 2021.

²⁸ Braun, Virginia, and Victoria Clarke. "Using Thematic Analysis in Psychology," *Qualitative Research in Psychology* 3, no. 2 (2006): 77–101.

²⁹ Creswell, John W., and V. L. Plano Clark, *Designing and Conducting Mixed Methods Research*. Thousand Oaks: Sage Publications, 2018.

³⁰ Kementerian Ketenagakerjaan Republik Indonesia, *Laporan Tahunan Ketenagakerjaan Indonesia 2022* (Jakarta: Kemnaker RI, 2022), hlm. 22

employers and workers are equally protected within digitally mediated employment relationships.

From an organizational standpoint, the adoption of AgreementTech is most effective when implemented gradually. Organizations may begin with simpler digital contracts while simultaneously improving digital literacy among employees through structured training programs.³¹ This stepwise approach reduces internal resistance and facilitates broader acceptance of technological innovation. Companies in West Sumatera, particularly those with traditional management structures, tend to benefit from incremental transformation rather than abrupt system-wide changes. Digital leadership also emerges as an important factor influencing the adoption of AgreementTech. Leaders who demonstrate technological competence, openness to innovation, and the ability to integrate cultural values into digital workflows contribute significantly to organizational readiness.³² In West Sumatera, where local values such as *musyawarah*, trust, and communal decision-making remain strong, digital leadership plays a bridging role between global digital practices and local socio-cultural expectations.

However, digital leadership alone does not directly influence AgreementTech adoption. Quantitative results show a non-significant coefficient of 0.109 for the pathway between digital leadership and AgreementTech, indicating that leadership effectiveness is mediated through other organizational variables, particularly readiness and infrastructure.³³ This finding aligns with global research showing that technological adoption requires structural integration before leadership effects can be realized.³⁴

In addition, the disruption era acts as a powerful external force that accelerates digital transition. The results show a strong coefficient of 0.879 for the relationship between the disruption era and AgreementTech, with a t-statistic of 14.323 indicating a significant impact. This suggests that organizations feel compelled to modernize contractual practices to remain competitive, transparent, and adaptable.³⁵ Technological disruption pushes organizations away from conventional agreements toward traceable, data-driven, and verifiable digital systems.

³¹ Dwi Anggun Putri and Yudi Nugroho, "Digitalisasi Kontrak Kerja: Tantangan dan Peluang di Era Industri 4.0," *Jurnal Teknologi dan Manajemen* 9, no. 1 (2022): 60.

³² Omar A. El Sawy et al., "How LEGO Built the Foundations and Enterprise Capabilities for Digital Leadership," *MIS Quarterly Executive* 15, no. 2 (2016): 143.

³³ Processed Primary Data, PLS-SEM Output, 2025.

³⁴ Tanya Bondarouk and Chris Brewster, "Conceptualising the Future of HRM and Technology Research," *The International Journal of HRM* 27, no. 21 (2016): 2653.

³⁵ World Economic Forum, *The Future of Jobs Report 2023* (Geneva: WEF, 2023), 14.

Table 1. Research Findings on Direct and Indirect Effects

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Description
The Era of Disruption (M) -> AgreementTech (Employment Agreement Innovation) (Y)	0.879	0.873	0.061	14.323	0.000	Significant
Digital Leadership (X) -> AgreementTech (Employment Agreement Innovation) (Y)	0.109	0.111	0.068	1.591	0.112	Not Significant
Digital Leadership (X) -> The Era of Disruption (M)	0.840	0.839	0.047	17.931	0.000	Significant

Source: Processed Primary Data, 2025

The quantitative findings reinforce that AgreementTech naturally emerges as a technological response to market pressures driven by disruption. This supports the idea that innovation in employment contracts is not merely driven by internal preference but by external necessity.³⁶ Organizations that fail to adopt digital contracting risk falling behind competitors that benefit from streamlined, transparent, and more secure digital workflows. Interestingly, the data reveal a highly significant relationship between digital leadership and the disruption era, with a coefficient of 0.840 and a t-statistic of 17.931. This implies that digital leadership

³⁶ International Labour Organization, *World Employment and Social Outlook 2021* (Geneva: ILO, 2021), 55.

enhances organizational responsiveness to environmental uncertainty.³⁷ Leaders with digital competence are more likely to anticipate technological shifts, invest in digital infrastructure, and mobilize organizational resources toward digital transformation.

Furthermore, digital leadership strengthens internal governance systems that support AgreementTech adoption. Leaders who encourage open communication, build trust-based work cultures, and initiate digital skill development programs contribute to higher readiness levels.³⁸ This readiness becomes a mediating variable that channels the influence of leadership into concrete technological adoption. Additionally, the disruption era shapes organizational expectations for efficiency, scalability, and accountability. Digital contracts offer real-time tracking, automated reminders, and secure data storage features that reduce administrative burdens and legal ambiguities commonly found in conventional employment agreements.³⁹ These benefits create a strong rationale for organizations to adopt AgreementTech, regardless of initial cultural or structural resistance.

Overall, the analysis confirms that the disruption era has a direct and substantial influence on AgreementTech, whereas digital leadership contributes indirectly through organizational readiness. This dual mechanism indicates that technological innovation in labor agreements is both externally pressured and internally shaped by leadership-driven preparedness.

Digital Leadership as an Indirect Determinant of AgreementTech Adoption

The findings of this study demonstrate that digital leadership, while conceptually positioned as a central driver of technological transformation, does not directly influence the adoption of AgreementTech in employment agreements. Instead, its impact is expressed through a constellation of indirect mechanisms that shape organizational readiness, cultural acceptance, and institutional alignment. This aligns with theoretical perspectives which argue that leadership in the digital era operates not as an isolated force but as a relational catalyst embedded within a broader ecosystem of technological disruptions, regulatory demands, and

³⁷ Creswell & Plano Clark, *Designing and Conducting Mixed Methods Research*, 3rd ed. (Thousand Oaks, CA: SAGE Publications, 2018), 169.

³⁸ Nasution, "Kearifan Lokal dan Tantangan Modernisasi dalam Budaya Kerja Masyarakat Minangkabau," *Jurnal Sosial dan Budaya* 12, no. 2 (2020): 48.

³⁹ Braun & Clarke, "Using Thematic Analysis in Psychology," *Qualitative Research in Psychology* 3, no. 2 (2006): 80.

socio-cultural expectations.⁴⁰ Digital leadership thus functions less as a trigger of immediate behavioral change and more as an enabling condition that prepares organizational systems for the transition toward digital contracting. Without adequate structural readiness such as reliable digital infrastructure, human resource competencies, and updated internal policies leaders cannot transform contractual governance merely through directives or visionary statements.⁴¹

The insignificance of the direct statistical relationship between digital leadership and AgreementTech adoption underscores the importance of organizational readiness as a mediating variable. Previous studies show that organizations experiencing external digital pressures tend to adopt new technologies only when internal structures have been sufficiently synchronized.⁴² Leadership becomes meaningful only when supported by adequate technological infrastructure, workforce literacy, and procedural integration across departments. In many organizations in West Sumatera, these preconditions remain uneven. Traditional work cultures, fragmented administrative workflows, and limited exposure to digital legal instruments impede the ability of leadership to enact swift reforms. This explains why organizations with strong digital leadership attributes still fail to achieve complete AgreementTech adoption: leadership alone cannot substitute for structural preparedness.

Despite this, the study reveals a strong association between digital leadership and the disruption era, suggesting that leaders are instrumental in interpreting external technological turbulence and converting it into strategic organizational responses.⁴³ Leaders with digital competence are capable of recognizing patterns of disruption, assessing their implications for contractual governance, and mobilizing resources to initiate change. Such leaders often act as institutional translators who bridge macro-level environmental shifts and micro-level organizational practices. This translation function is crucial in sectors characterized by high uncertainty, limited regulatory clarity, or strong cultural norms as found in West Sumatera. Leadership becomes the main mechanism for configuring institutional meaning around digital transformation and framing AgreementTech as a normative necessity rather than an optional innovation.

⁴⁰ Tanya Bondarouk & Chris Brewster, "Conceptualising the Future of HRM and Technology Research," *The International Journal of HRM* 27, no. 21 (2016): 2653.

⁴¹ Dwi Anggun Putri & Yudi Nugroho, "Digitalisasi Kontrak Kerja...", *Jurnal Teknologi dan Manajemen* 9, no. 1 (2022): 60.

⁴² International Labour Organization, *World Employment and Social Outlook 2021* (Geneva: ILO, 2021), 55.

⁴³ Omar A. El Sawy et al., "How LEGO Built the Foundations for Digital Leadership," *MIS Quarterly Executive* 15, no. 2 (2016): 143.

Moreover, digital leadership plays a key role in integrating socio-cultural values into digital transformation processes. In West Sumatera, employment relations are deeply influenced by Minangkabau values such as *musyawarah* (collective deliberation), *bulek aia dek pambuluah*, *bulek kato dek mufakat* (consensus-driven decision-making), and trust-based relational ethics. Leaders who can embed these values into digital employment agreements by ensuring transparency, participatory communication, and respectful digital engagement can reduce resistance and increase cultural legitimacy of AgreementTech.⁴⁴ This cultural alignment is not merely symbolic; it functions as an operational factor affecting workers' willingness to transition from conventional written agreements to electronic contracts, especially in institutions where authority structures and communication patterns still reflect customary norms.

Digital leadership also influences the competence-building dimension of technological transformation. Leaders who actively promote digital upskilling, continuous learning, and knowledge-sharing practices create a workforce that is capable of understanding, operating, and trusting AgreementTech systems.⁴⁵ This dimension is critical because the failure of digital systems often arises not from technological malfunction but from inadequate human adoption. Leaders who invest in training, coaching, and collaborative learning cultivate collective digital literacy that supports the sustainability of digital transformation efforts. In this context, AgreementTech adoption becomes not only a managerial decision but a shared organizational capability.

Another important aspect concerns the ethical governance of digital contracting. The integration of digital employment agreements raises concerns such as data privacy, consent validity, cybersecurity, and algorithmic fairness. Effective digital leaders establish ethical guardrails that protect workers' rights and prevent abuses of information asymmetry.⁴⁶ By implementing transparent data governance frameworks, conducting periodic audits, and ensuring compliance with data protection standards, leaders reinforce the legitimacy and accountability of AgreementTech. This ethical dimension is essential not only for legal

⁴⁴ Muhammad Zainuddin Nasution, "Kearifan Lokal dan Tantangan Modernisasi," *Jurnal Sosial dan Budaya* 12, no. 2 (2020): 48.

⁴⁵ Edgar Schein, *Organizational Culture and Leadership*, 5th ed. (New Jersey: Wiley, 2017), 99.

⁴⁶ Kementerian Hukum dan HAM, *Pedoman Perlindungan Data Pribadi di Indonesia* (Jakarta: Kemenkumham, 2020), 44.

compliance but also for maintaining trust within employment relationships that are transitioning from physical to digital formats.

Additionally, digital leadership contributes to the institutionalization of AgreementTech by promoting cross-functional integration. Contract digitalization requires coordination between legal units, HR departments, IT divisions, and managerial tiers. Leaders act as integrators who harmonize these organizational parts, ensuring that AgreementTech does not remain a fragmented or symbolic initiative.⁴⁷ Through cross-departmental dialogue, standard operating procedures, and integrated information systems, leadership strengthens the internal coherence necessary for effective digital contracting governance.

In summary, the analysis confirms that digital leadership does not directly influence AgreementTech adoption but plays a critical indirect role in shaping readiness, cultural fit, ethical governance, and institutional coordination. AgreementTech materializes only when digital leadership successfully mobilizes organizational structures to absorb disruption pressures and convert them into sustainable contractual innovations. Therefore, in the broader modernization of Indonesia's labor governance, digital leadership serves as a foundational enabler whose impact is mediated through structural and cultural channels, making it indispensable for long-term digital transformation.

Legal Reconstruction for Digital Employment Agreements in the Era of AgreementTech

The implementation of AgreementTech in Indonesia, particularly in West Sumatera, fundamentally requires a renewed legal framework capable of accommodating digital employment agreements while ensuring legal certainty, evidentiary strength, and procedural fairness. Although the existing legal foundation primarily the Electronic Information and Transactions Law (UU ITE) acknowledges the validity of electronic documents and electronic signatures, its operationalization within labor law remains fragmented and inconsistent.⁴⁸ Courts continue to rely heavily on printed documents and handwritten signatures as primary evidence, indicating a gap between technological recognition in legislation and its practical enforcement within judicial proceedings. This gap reflects the “das sein versus das sollen” problem in digital labor governance: digital agreements are normatively permissible yet not

⁴⁷ Creswell & Plano Clark, *Designing and Conducting Mixed Methods Research*, 169.

⁴⁸ Kementerian Komunikasi dan Informatika, *Penjelasan UU ITE dan Implementasi Dokumen Elektronik* (Jakarta: Kominfo, 2021), hlm. 18.

institutionally normalized. This inconsistency is further emphasized in recent scholarship, which notes that although the Indonesian legal system has begun to recognize digital contracts, the doctrinal foundation of contract law remains rooted in traditional principles that are insufficient for regulating automated digital execution and electronic evidentiary mechanisms.⁴⁹ Such doctrinal rigidity poses significant challenges for AgreementTech, especially when contractual processes rely on features such as blockchain verification, automated contract renewal, or digital audit trails that require a more adaptive and technologically oriented legal framework.

The absence of standardized judicial procedures for examining digital employment contracts further complicates AgreementTech implementation. Judges often demand additional supporting evidence such as server logs, metadata verification, blockchain timestamps, or digital certificate authentication to ascertain the validity and integrity of electronic agreements.⁵⁰ These requirements, although intended to uphold evidentiary rigor, also create procedural uncertainty especially for smaller organizations lacking specialized IT capacity. Without clear judicial guidelines, legal practitioners and employers may hesitate to rely on AgreementTech for fear that digital contracts will carry weaker evidentiary weight in dispute resolution forums.

Beyond judicial inconsistencies, the regulatory framework surrounding electronic signatures requires strengthening. While certified electronic signatures (TTE tersertifikasi) carry stronger legal recognition, their adoption among companies in West Sumatera remains minimal due to cost, limited digital literacy, and logistical barriers.⁵¹ As a result, many organizations rely on basic electronic signatures that lack explicit legal guarantees, thereby increasing vulnerability to dispute challenges. A comprehensive legal reconstruction must therefore include state-supported mechanisms for affordable, accessible, and widely recognized digital certification.

In addition, legal reconstruction must consider the interaction between digital contractual systems and local cultural norms. Employment relations in West Sumatera often involve customary validation practices grounded in trust, deliberation, and collective

⁴⁹ Aulia Fikrina et al., “*The Transformation of Contract Law in the Era of Digital Contracts in Indonesia*,” *Melayunesia Law* 9, no. 1 (2025): 1–15.

⁵⁰ Mahkamah Agung RI, *Pedoman Pemeriksaan Alat Bukti Elektronik* (Jakarta: Badan Litbang Diklat Hukum dan Peradilan, 2020), hlm. 33.

⁵¹ Badan Siber dan Sandi Negara, *Laporan Nasional Tanda Tangan Elektronik 2022* (Jakarta: BSSN, 2022), hlm. 11.

acknowledgment.⁵² Digital agreements that merely replicate textual clauses without integrating cultural markers of legitimacy may be perceived as incomplete or disrespectful to local tradition. To address this, AgreementTech platforms should allow space for digital ceremonial validation such as recorded consent statements, multi-party digital witnessing, or culturally informed confirmation modalities to ensure socio-cultural compatibility.

From a procedural standpoint, the modernization of digital employment agreements requires harmonization between labor legislation, digital information regulations, and evidentiary law (*hukum pembuktian*). Current labor regulations remain silent on digital contract processes, leaving practitioners to interpret UU ITE in conjunction with the Civil Code (KUHPerdata) and Manpower Law (UU Ketenagakerjaan).⁵³ This fragmented regulatory environment weakens legal certainty and exposes digital agreements to interpretative disputes. A unified statutory guideline detailing the formation, signing, storage, revision, and enforcement of digital employment contracts is necessary to eliminate ambiguity and foster uniform application.

Furthermore, the institutional capacity of courts, arbitrators, and labor mediators must be strengthened to effectively assess digital evidence. Without adequate training, judicial actors may misinterpret or undervalue critical digital artifacts, such as audit trails, encryption metadata, or blockchain verification records.⁵⁴ Legal reconstruction must therefore include capacity-building initiatives aimed at equipping adjudicators with the technical literacy required to evaluate AgreementTech-based contractual disputes. Countries with advanced digital judicial systems, such as Singapore and Estonia, demonstrate that judicial competence is a foundational element for successful digital contract governance.

Data protection legislation also plays a fundamental role in shaping the future of AgreementTech. Digital employment agreements involve sensitive worker information personal data, performance metrics, biometric signatures, and sometimes geolocation data which must be safeguarded through compliance with data protection norms.⁵⁵ A reconstructed legal framework must impose clear obligations on employers regarding consent requirements, data retention limits, encryption standards, cross-border data transfer restrictions, and the right

⁵² Muhammad Zainuddin Nasution, "Kearifan Lokal dan Tantangan Modernisasi dalam Budaya Kerja Masyarakat Minangkabau," *Jurnal Sosial dan Budaya* 12, no. 2 (2020): 48.

⁵³ International Labour Organization, *Labour Law Reforms in the Digital Era* (Geneva: ILO, 2021), hlm. 72.

⁵⁴ Supreme Court of Singapore, *Digital Evidence Benchbook* (Singapore: Judiciary Commission, 2020), hlm. 54.

⁵⁵ Kementerian Hukum dan HAM, *Pedoman Perlindungan Data Pribadi di Indonesia* (Jakarta: Kemenkumham, 2020), 44.

to data access. Failure to uphold these obligations risks undermining worker rights and eroding trust in digital contracting systems.

Finally, legal reconstruction must address the long-term sustainability and regulatory adaptability of AgreementTech. Technological innovation evolves rapidly, and contractual governance mechanisms must be flexible enough to respond to emerging challenges, such as smart contract automation, AI-driven contract drafting, and algorithmic evaluation of employment obligations.⁵⁶ Static regulations that fail to anticipate these developments would quickly become obsolete, thereby obstructing innovation. Thus, Indonesia must adopt adaptive regulatory frameworks potentially through regulatory sandboxes or iterative policy cycles to ensure that AgreementTech remains both legally valid and technologically relevant.

CONCLUSION

This study concludes that the Disruption Era is the most decisive determinant of AgreementTech adoption in employment contracting. The quantitative analysis, reflected in the strong and significant path coefficient ($\beta = 0.879$; $p < 0.05$), confirms that technological disruption compels organizations to transition from conventional written agreements toward digital, traceable, and automated contractual forms. These findings demonstrate that AgreementTech does not arise merely from managerial preference, but from structural pressures that demand adaptive, transparent, and legally accountable contract mechanisms. Legally, this reinforces the urgency of reformulating Indonesia's labor-contracting norms particularly those rooted in Articles 1320 and 1338 of the Civil Code, the Electronic Information and Transactions Law (UU ITE), and PP 71/2019 to explicitly recognize electronic agreements, define standards for digital signatures, and establish clear evidentiary parameters for digital contracts in judicial review. From a legal standpoint, this reinforces the urgency of reconstructing Indonesia's labor contract framework to explicitly recognize and regulate electronic and blockchain-based agreements, ensuring their validity and enforceability within judicial processes.

The study further finds that digital leadership does not directly influence AgreementTech adoption, as shown by its non-significant coefficient ($\beta = 0.109$; $p > 0.05$). This result indicates that leadership alone is insufficient to transform contractual governance

⁵⁶ World Economic Forum, *Global Future Council on AI for Humanity Report* (Geneva: WEF, 2022), hlm. 29.

without adequate infrastructural readiness, procedural integration, and regulatory clarity. Nevertheless, digital leadership exerts a strong influence on organizational responsiveness to disruption ($\beta = 0.840$; $p < 0.05$), demonstrating its role as an indirect catalyst that shapes internal readiness, encourages cultural acceptance, and strengthens organizational capacity to engage with digital transformation. From a legal perspective, this dynamic affirms that external pressures and institutional preparedness not leadership alone serve as the primary engines of contractual innovation, especially given that Indonesia's current legal framework still privileges printed documents and handwritten signatures in evidentiary practice. Legally, this finding underscores that external pressures and institutional preparedness not leadership alone are the primary engines driving contractual innovation in the digital era.

The interaction among these variables confirms that AgreementTech can be effectively implemented only when disruptive technological forces are supported by competent digital leadership and embedded within a clear legal framework. For AgreementTech to attain full legal reliability, harmonization is required between the Civil Code, labor legislation, UU ITE, evidentiary law, and data protection regulations. The modernization of Indonesia's employment agreement system both in West Sumatera and nationally therefore necessitates a synergistic ecosystem in which legal reform, judicial capacity-building, digital infrastructure development, and organizational adaptation function cohesively. Digital leadership strengthens internal structures and cultural alignment, while the Disruption Era supplies the external momentum necessary for innovation. Thus, the modernization of Indonesia's employment agreement system in West Sumatera and more broadly requires a synergistic ecosystem in which legal reform, digital capacity-building, and organizational adaptation operate in tandem. Collectively, these findings affirm that the convergence of disruptive technological pressures, leadership-driven readiness, and renewed labor contract regulation constitutes the fundamental pillars for realizing AgreementTech as a transformative contractual innovation in Indonesia's evolving labor landscape.

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The authors sincerely hope that this work will be beneficial for readers and serve as a meaningful reference for future researchers in advancing studies within this field.

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