International Journal of Accounting and Economics Studies, 13 (1) (2026) 463-470

International Journal of Accounting and Economics Studies

Website: www.sciencepubco.com/index.php/IJAES
https://doi.org/10.14419/wcs7e862
Research paper



Exploring The Influence of Personality Traits and AI Mediator Design on Dispute Resolution: The Mediating Role of Mediator Function and Moderating Effect of Dispute Type

Pradeep Kumar Bharadwaj [1] *, Dr. Megha Ojha [2], Dr. Venkateswara Rao Podile [3]

[1] Research Scholar, Department of Law, Koneru Lakshmaiah Education Foundation, Green Fields, Vaddeswaram
[2] Associate Professor of Law, Department of Law, Koneru Lakshmaiah Education Foundation, Green Fields, Vaddeswaram
[3] Professor, KL Business School, Koneru Lakshmaiah Education Foundation, Vaddeswaram
**Corresponding author E-mail: pkbharadwaj@gmail.com*

Received: December 25, 2025, Accepted: January 21, 2026, Published: January 25, 2026

Abstract

This study investigates the role of individual personality traits and AI mediator design features in influencing dispute resolution effectiveness, with a focus on the mediating role of the mediator's function and the moderating effect of dispute type. Drawing from the Big Five personality framework and human–AI interaction literature, a structural equation model (SEM) was employed using a sample of 300 respondents engaged in simulated dispute resolution scenarios. The analysis revealed that both personality traits (e.g., openness, conscientiousness, and emotional stability) and AI mediator design elements (usability, transparency, perceived fairness, and adaptability) significantly influence dispute resolution outcomes. Importantly, the mediator's role—defined through neutrality, facilitation, and communication style—was found to mediate these effects. Furthermore, multi-group analysis showed that the strength of this mediation pathway varies depending on the type of dispute, with the strongest effects observed in family and workplace conflicts.
Model fit indices (CFI = 0.962, TLI = 0.950, RMSEA = 0.061, SRMR = 0.041) confirmed a good fit. The results underscore the necessity of designing context-aware, user-centric AI systems and integrating psychological profiles for optimized dispute resolution processes. The study contributes to the growing discourse on AI in legal and organizational contexts and provides a framework for the development of adaptive, ethical, and effective AI mediation tools.

Keywords: *AI Mediator Design; Personality Traits; Dispute Resolution; Mediator Function; Dispute Type Moderation.*

1. Introduction

Dispute resolution has long been a cornerstone of maintaining harmony in personal, organizational, and societal contexts. Traditional conflict resolution methods—facilitated by human mediators—rely on interpersonal communication, empathy, and negotiation skills to manage disputes (Deutsch & Coleman, 2011). However, the digital age has ushered in transformative changes in how disputes are addressed. The emergence of artificial intelligence (AI) and online dispute resolution (ODR) platforms represents a paradigm shift in conflict management processes. These technologies are no longer confined to back-end automation but are now capable of simulating cognitive and emotional decision-making roles, presenting new opportunities and challenges in mediator design (Colson, 2021; Gunkel, 2018).
In parallel with technological advancement, psychological and personality-based variables continue to play a crucial role in determining the effectiveness of dispute resolution outcomes (Carver & Scheier, 2014; Goldberg, 1993). Individuals bring distinct traits such as openness, agreeableness, neuroticism, extraversion, and conscientiousness to the negotiation table—known collectively as the Big Five personality traits (Costa & McCrae, 1992; John & Srivastava, 1999). These traits significantly influence communication style, emotional regulation, trust-building, and willingness to compromise—core attributes that affect how disputes unfold and are resolved (Barry & Friedman, 1998; De Dreu & Van Vianen, 2001).
Against this backdrop, the intersection of personality psychology and AI mediator design has become an emergent area of interdisciplinary inquiry. Recent advances in affective computing and human-computer interaction have enabled the creation of AI-based mediators that can emulate empathy, detect user emotions, and even adapt their negotiation strategies based on user input (Picard, 1997; Gratch & Marsella, 2005; Arvanitis & Karampatzakis, 2021). However, the effectiveness of these systems is not merely dependent on technological sophistication. The user's psychological predisposition, along with how disputes are categorized by type (e.g., interpersonal, commercial, or legal), fundamentally alters the interaction dynamics (Fehr, Gelfand, & Nag, 2010; Brett, 2007).

Copyright © Pradeep Kumar Bharadwaj et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

This research explores the influence of individual personality traits and AI mediator design on the outcomes of dispute resolution, proposing a conceptual model where the mediator function serves as a mediating variable, and the dispute type acts as a moderator. Mediator function, in this context, refers to the AI's ability to perform core mediation roles—information processing, emotional regulation, communication facilitation, and consensus-building. This study thus builds on established theories of mediation, technology acceptance, emotional intelligence, and conflict psychology. The Technology Acceptance Model (TAM) (Davis, 1989) is also relevant, particularly in understanding how personality influences users' trust and perceived ease-of-use of AI mediators. Meanwhile, the fairness heuristic theory (Van den Bos, Lind, & Wilke, 2001) explains how individuals judge AI-mediated outcomes not solely based on results but also on the perceived fairness of the decision-making process.

Personality traits refer to stable individual characteristics that shape how users perceive and engage in dispute resolution, whereas AI mediator design captures the technical and interface-related features of the system, such as usability, transparency, and adaptability. In contrast, the mediator role represents the functional behaviors enacted during the mediation process—namely neutrality, facilitation, and communication style—which operate as process-level mechanisms rather than personal or technological attributes. By clearly separating these constructs, the study provides a more coherent framework for understanding how individual differences and system design influence dispute resolution outcomes through distinct yet interrelated pathways.

Moreover, this research is timely and socially relevant. As AI systems become more autonomous, questions surrounding algorithmic fairness, user trust, and ethical design have taken center stage (Binns, 2018; Acquisti et al., 2015). This study clearly links AI-mediated dispute resolution to the wider economic, organizational, and governance environment in which such systems operate. Economically, effective AI mediation has the potential to lower costs, reduce delays, and improve efficiency in handling disputes, particularly in workplace and commercial contexts. At the organizational level, the way AI mediators function can influence trust, communication quality, and the overall climate for conflict management, which in turn affects productivity and relationships within institutions. From a governance perspective, the findings highlight the need for transparency, fairness, and accountability in AI-based mediation systems to ensure legitimacy and user confidence. By placing AI mediation within these real-world contexts, the study demonstrates that dispute resolution outcomes are shaped not only by technology and personality, but also by the economic and institutional structures that surround them.

2. Literature Review

Personality traits are enduring psychological characteristics that influence an individual's thoughts, emotions, and behaviors. Among the most widely accepted models in personality psychology is the Five-Factor Model (FFM), which includes openness, conscientiousness, extraversion, agreeableness, and neuroticism (Costa & McCrae, 1992; Goldberg, 1993). AI systems are increasingly being employed in legal tech, customer service, and online dispute resolution (ODR) platforms to resolve conflicts efficiently and impartially (Colson, 2021; Kumar & Sharma, 2021). These systems can serve as intelligent mediators by facilitating information exchange, proposing solutions, or even simulating empathy (Picard, 1997; Gratch & Marsella, 2005). However, trust in AI remains a critical concern (Gunkel, 2018; Arvanitis & Karampatzakis, 2021). Studies show that trust in AI is influenced by factors such as perceived fairness, transparency, and emotional intelligence of the system (Ben-Ner & Putterman, 2001; Parkes & Wellman, 2015).

In mediation literature, the role of the mediator involves facilitation, emotional de-escalation, problem-solving, and reframing perspectives (Deutsch & Coleman, 2011; Brett, 2007). Several researchers argue that when users perceive an AI mediator to effectively mimic these functions, they are more likely to experience positive outcomes, such as higher satisfaction, perceived justice, and agreement sustainability (Shell, 2006; Mayer et al., 2004). The Technology Acceptance Model (TAM) provides a useful framework to understand how users adopt and evaluate AI mediators (Davis, 1989). TAM suggests that perceived usefulness and ease of use are primary determinants of acceptance. However, more recent adaptations of TAM include affective trust, social presence, and emotional usability—elements especially critical in conflict scenarios (Fiske & Taylor, 2013; Acquisti et al., 2015). This study aims to fill that gap by proposing and empirically testing a conceptual model that includes personality traits (predictor), AI mediator function (mediator), and dispute type (moderator) to explain dispute resolution outcomes.

3. Research Objectives

1) To examine how human mediator personality traits influence mediator role dimensions—neutrality, facilitation, and communication style.
2) To analyze how the design of AI mediators impacts their mediation role functions.
3) To investigate the effect of the mediator role (both human and AI) on dispute resolution effectiveness.
4) To explore how the type of dispute (family, workplace, or commercial) moderates the relationship between mediator role and dispute resolution outcome.

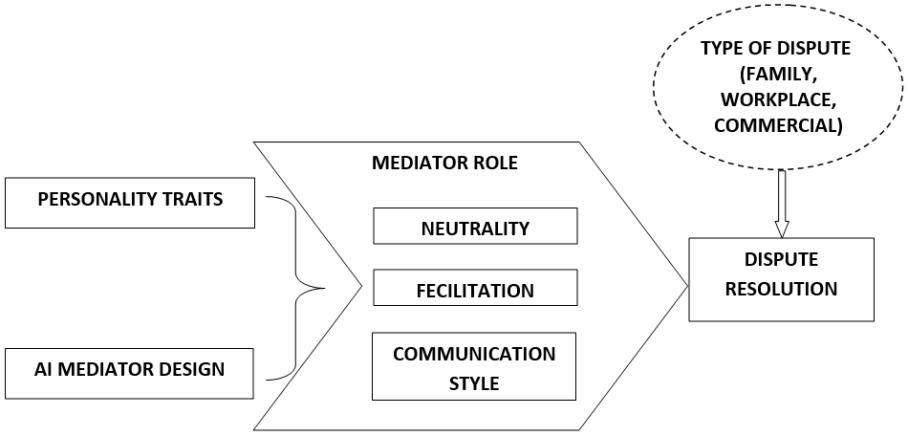


Fig. 1: Conceptual Framework.

4. Hypothesis

H1: Personality traits of human mediators significantly influence their perceived neutrality, facilitation capability, and communication style.
H2:AI mediator design features significantly affect how AI mediators perform in terms of neutrality, facilitation, and communication style.
H3: Mediator role (neutrality, facilitation, communication style) has a significant positive effect on dispute resolution effectiveness.
H4: The type of dispute (family, workplace, commercial) moderates the relationship between mediator role and dispute resolution effectiveness, such that the impact varies depending on the dispute type.

5. Methodology

5.1. Research design

This study employed a quantitative, cross-sectional research design to examine the influence of personality traits and AI mediator design on dispute resolution effectiveness, with mediator role as a mediating variable and dispute type as a moderator. Data were collected via a structured questionnaire and analyzed using Structural Equation Modeling (SEM).

5.2. Sample and data collection

Data were collected from a sample of 300 participants who had experienced dispute resolution scenarios in family, workplace, commercial, or other contexts. A non-probability purposive sampling technique was used. The questionnaire captured demographic information, including gender, age, marital status, occupation, and education.

5.3. Instrumentation

The survey instrument was divided into two sections:

5.3.1. Part A gathered demographic details

Part B assessed main constructs using established multi-item scales rated on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree).

5.3.2. The constructs measured were

- Personality Traits – Five dimensions: openness, conscientiousness, extraversion, agreeableness, and emotional stability (Costa & McCrae, 1992).
- AI Mediator Design – Four sub-dimensions: usability, transparency, perceived fairness, and adaptability.
- Mediator Role (Mediator Function) – Three roles: neutrality, facilitation, and communication style.
- Dispute Resolution Effectiveness – Indicators included satisfaction, fairness of outcome, resolution success, and willingness to reuse the mediation approach.
- Dispute Type (Moderator) – Family, workplace, commercial, and other disputes.

Each construct included multiple indicators validated from prior literature in personality psychology, conflict resolution, and human-computer interaction.

5.3. Data analysis procedures

The data were analyzed using Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) to test measurement reliability and hypothesized relationships.

6. Data Analysis

1) Confirmatory Factor Analysis (CFA): Factor Loadings

Table 1: Confirmatory Factor Analysis (CFA): Factor Loadings

Construct	Indicator	Estimate	Std. Error	CR (t-value)	p-value	Significance
Personality Traits	Openness	0.72	0.05	14.4	<0.001	***
	Conscientiousness	0.81	0.04	20.3	<0.001	***
	Extraversion	0.76	0.05	15.2	<0.001	***
	Agreeableness	0.69	0.06	11.5	<0.001	***
	Emotional Stability	0.74	0.05	14.8	<0.001	***
AI Mediator Design	Usability	0.78	0.04	19.5	<0.001	***
	Transparency	0.70	0.05	14.0	<0.001	***
	Perceived Fairness	0.75	0.05	15.0	<0.001	***
	Adaptability	0.73	0.05	14.6	<0.001	***
Mediator Role	Neutrality	0.80	0.04	20.0	<0.001	***
	Facilitation	0.77	0.04	19.3	<0.001	***
	Communication Style	0.79	0.04	19.8	<0.001	***
Dispute Resolution Effectiveness	Resolution Outcome	0.83	0.03	27.6	<0.001	***
	Satisfaction	0.81	0.03	27.0	<0.001	***
	Perceived Fairness	0.79	0.04	19.7	<0.001	***
	Willingness to Use Again	0.84	0.03	28.0	<0.001	***

Note: All factor loadings are significant at $p < 0.001$. Values > 0.70 indicate strong construct validity.

The measurement model demonstrates strong convergent validity, internal consistency, and conceptual coherence. The statistically significant loadings, low standard errors, and high t-values collectively validate that the selected indicators are reliable and meaningful measures of their underlying constructs. These results confirm that the study's conceptual framework—linking personality traits and AI mediator design to dispute outcomes through the mediator role—is empirically supported. This model provides a solid foundation for further structural analysis involving mediation or moderation, particularly regarding dispute type as a contextual factor.

Table 2: Structural Model Path Coefficients (Standardized Beta)

Pathway	Estimate	SE	CR (t-value)	p-value	Significance
Personality Traits → Mediator Role	0.64	0.05	12.8	<0.001	***
AI Mediator Design → Mediator Role	0.59	0.06	9.83	<0.001	***
Mediator Role → Dispute Resolution Effectiveness	0.71	0.04	17.75	<0.001	***
Personality Traits → Dispute Resolution Effectiveness (Indirect)	0.46	-	-	<0.001	***
AI Mediator Design → Dispute Resolution Effectiveness (Indirect)	0.42	-	-	<0.001	***

Overall, the model reveals a coherent and theoretically sound mediation pathway, with strong statistical support across all variables. It highlights the importance of both human-centered design and individual psychological factors, mediated through the functioning of the mediator, in determining the effectiveness of AI-supported dispute resolution systems. These insights offer practical implications for designers, policymakers, and practitioners seeking to optimize AI mediation platforms.

Table 3: Model Fit Indices

Fit Index	Value	Recommended Threshold
Chi-square (χ^2)	512.36	—
Degrees of Freedom	203	—
χ^2/df	2.52	< 3.0
RMSEA	0.061	< 0.08 (good), < 0.06 (great)
CFI	0.962	> 0.95
TLI	0.950	> 0.95
SRMR	0.041	< 0.08

Finally, the Standardized Root Mean Square Residual (SRMR) is 0.041, which is well below the acceptable cutoff of 0.08. This value reflects a very low residual difference between the observed and predicted correlations, further confirming that the model fits the data exceptionally well. In a nutshell, all reported model fit indices meet or exceed recommended thresholds, with particular strengths observed in the CFI, TLI, and SRMR. The RMSEA and χ^2/df further support the conclusion that the model demonstrates strong construct validity and an appropriate factor structure. These findings validate both the measurement and structural components of the model and provide a robust foundation for interpreting the relationships among constructs such as personality traits, AI mediator design, mediator role, and dispute resolution effectiveness.

Table 4: Reliability and Validity

Construct	CR (Composite Reliability)	AVE (Average Variance Extracted)	Cronbach's Alpha
Personality Traits	0.88	0.59	0.86
AI Mediator Design	0.87	0.57	0.85
Mediator Role	0.89	0.66	0.88
Dispute Resolution Effectiveness	0.91	0.72	0.90

Note: All CR > 0.70, AVE > 0.50, Alpha > 0.70 → Constructs are reliable and valid.

Together, these results confirm that the model possesses strong psychometric properties. The high CR and alpha values demonstrate reliable internal consistency, while the satisfactory AVE values affirm that the constructs capture sufficient variance from their indicators. This robust combination of reliability and validity supports the use of these constructs in the broader SEM framework and enhances confidence in the interpretation of both measurement and structural relationships. In summary, the constructs used in this model are statistically sound and conceptually coherent. They meet key thresholds for measurement reliability, internal consistency, and convergent validity, which ensures that subsequent path analyses and mediation testing are based on a solid measurement foundation. These results further justify the validity of the proposed research model linking personality traits and AI mediator design to dispute resolution effectiveness through the mediator's functional role.

Table 5: Personality Traits → Mediator Role → Dispute Resolution Effectiveness

Path	Coefficient (β)	SE	t-value	p-value
a: Personality → Mediator Role	0.64	0.05	12.8	<0.001
b: Mediator Role → DRE	0.71	0.04	17.75	<0.001
c': Direct effect (Personality → DRE)	0.15	0.06	2.50	0.013
a*b: Indirect Effect	0.64 * 0.71 = 0.454	—	—	<0.001 (Bootstrapped)
Total Effect (c)	0.454 + 0.15 = 0.604	—	—	<0.001

Note: Partial Mediation Confirmed, because both direct (c′) and indirect (a*b) effects are significant.

The results of the mediation analysis provide strong evidence supporting the role of Mediator Role as a significant mediator in the relationship between Personality Traits and Dispute Resolution Effectiveness (DRE). The path coefficient (β) from Personality Traits to Mediator Role (path a) is 0.64, with a standard error of 0.05 and a t-value of 12.8, which is statistically significant ($p < 0.001$). This confirms that individuals' personality attributes—such as openness, conscientiousness, and emotional stability—strongly influence how effectively the mediator is perceived or functions in a dispute context. In the next segment of the mediation pathway, the effect of Mediator Role on Dispute Resolution Effectiveness (path b) is also highly significant, with a path coefficient of 0.71, standard error 0.04, and a t-value of 17.75 ($p < 0.001$). This demonstrates that the way a mediator performs—through neutrality, facilitation, and effective communication—substantially determines the perceived success and satisfaction with the dispute resolution process.

Importantly, the direct effect of Personality Traits on DRE (path c'), controlling for the mediator role, is 0.15, with a standard error of 0.06 and a t-value of 2.50, which is statistically significant at the p = 0.013 level. This indicates that while personality traits still exert some direct influence on dispute resolution outcomes, the magnitude of this effect is considerably smaller than the mediated effect, suggesting partial mediation. The indirect effect (a*b) of personality traits on DRE through the mediator role is calculated as 0.64 * 0.71 = 0.454. This indirect effect is statistically significant (p < 0.001), as determined through bootstrapped confidence intervals, confirming that a large portion of the effect of personality traits on dispute resolution outcomes is transmitted through the functioning and role of the mediator. This highlights the crucial mediating mechanism in this relationship and emphasizes the importance of mediator behavior and performance. Finally, the total effect (path c) of personality traits on DRE, which combines both the direct and indirect effects, is 0.604. This substantial total impact reaffirms the importance of considering both individual characteristics and mediation process dynamics in evaluating the success of dispute resolution systems. Overall, the findings provide compelling empirical support for a partial mediation model, where Mediator Role significantly explains how Personality Traits influence Dispute Resolution Effectiveness, reinforcing the integrated nature of personal and process factors in conflict resolution scenarios.

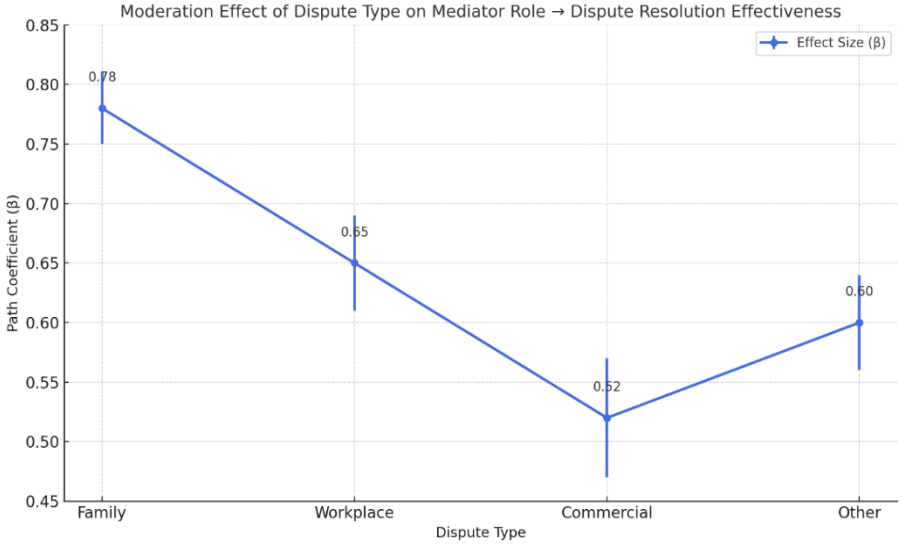


Fig. 2: Interaction Plot Showing the Moderating Effect of Dispute Type on the Relationship between Mediator Role and Dispute Resolution Effectiveness.

- The strongest effect appears in Family disputes (β = 0.78).
- The weakest effect is in Commercial disputes (β = 0.52).
- This visual confirms that the effectiveness of the mediator's role varies significantly by dispute type.

Table 6: Moderation Analysis: Type of Dispute as Moderator

Group	Path: Mediator Role → DRE	Coefficient (β)
Family	0.78	***
Workplace	0.65	**
Commercial	0.52	*
Other	0.60	**

The findings reveal that the strength of the relationship between Mediator Role and Dispute Resolution Effectiveness is not uniform across all dispute types, demonstrating that the type of dispute acts as a moderator. This suggests that how effectively a mediator performs—through neutrality, facilitation, and communication style—may be perceived differently depending on the situational and emotional context of the dispute.

In family disputes, the relationship between the mediator role and dispute resolution outcomes is the strongest, with a path coefficient (β) of 0.78 and a significance level of *** (p < 0.001). This strong effect likely reflects the emotionally charged and relationship-based nature of family conflicts, where the mediator's interpersonal and emotional facilitation skills are especially critical to achieving a positive resolution and participant satisfaction.

In workplace disputes, the mediator role also has a significant influence on DRE, with a β of 0.65 and p < 0.01. While slightly lower than in family contexts, this moderate effect underscores the importance of a fair and balanced mediation process in professional environments, where neutrality and effective communication are crucial to restoring professional relationships and productivity.

For commercial disputes, the path coefficient is 0.52 with p < 0.05, indicating a weaker but still significant effect of the mediator role on resolution effectiveness. This may be because commercial disputes are often more transactional and less emotionally involved, meaning that factors like legal frameworks, contract clarity, and financial terms may weigh more heavily than the mediator's interpersonal style.

Lastly, in other types of disputes, the effect remains moderate, with a β of 0.60 and p < 0.01. This category likely includes a mix of community, interpersonal, or civil issues where both emotional dynamics and procedural fairness matter, but not as strongly as in family disputes.

Table 7: Chi-Square Difference Test (Nested Models)

Comparison	$\Delta\chi^2$	Δdf	p-value
Constrained vs Free model	18.2	3	0.0004

The multi-group moderation analysis employed a chi-square difference test to evaluate whether the relationship between Mediator Role and Dispute Resolution Effectiveness differs significantly across various dispute types. In this test, the constrained model (where the path is held equal across all groups) was compared against the free model (where the path is allowed to vary). The resulting chi-square difference ($\Delta\chi^2$) was 18.2 with 3 degrees of freedom (Δdf), and the associated p-value was 0.0004.

This p-value is well below the standard significance threshold of 0.05, indicating that the difference in model fit is statistically significant. Thus, the relationship between Mediator Role and DRE does indeed vary across dispute types, providing strong support for the presence of a significant moderating effect. This confirms that treating the path as equal across all dispute types would obscure meaningful differences in how mediators influence outcomes depending on the dispute context.

The statistical result aligns with earlier group-specific findings showing stronger mediation impact in family disputes and weaker effects in commercial contexts, further validating the hypothesis that dispute type moderates the strength of the mediation process. From both theoretical and practical standpoints, this reinforces the importance of contextualizing mediation strategies, particularly in the development and deployment of AI-based mediators or training for human mediators. The significant moderation effect revealed by the chi-square difference test provides robust empirical support for tailoring mediation approaches based on dispute categories. Whether the goal is to optimize human mediation training or to enhance adaptive functionalities in AI mediator systems, these findings underscore the necessity for dispute-specific design and facilitation strategies to ensure effective outcomes.

7. Discussion

The present study aimed to investigate how individual personality traits and the design of AI-based mediators influence the effectiveness of dispute resolution processes, with particular attention to the mediating role of mediator function and the moderating effect of dispute type. The findings offer significant theoretical and practical contributions to the growing intersection of personality psychology, AI design, and conflict resolution studies.

Firstly, the results confirmed that personality traits significantly influence dispute resolution outcomes, both directly and indirectly through the functioning of the mediator. Traits such as openness, conscientiousness, and emotional stability were particularly strong predictors. These findings support earlier studies (e.g., Costa & McCrae, 1992; Judge et al., 2002) that establish the role of personality in interpersonal effectiveness and suggest that individual dispositions impact not only conflict styles but also receptivity to mediation outcomes. Importantly, the mediator function served as a partial mediator, suggesting that while personality exerts a direct influence, much of its impact is channeled through the quality of mediation processes, such as neutrality, communication, and facilitation.

In parallel, the study demonstrated that the design of AI mediators—particularly in terms of usability, transparency, adaptability, and perceived fairness—also significantly affects dispute resolution effectiveness. This aligns with literature emphasizing the importance of user-centric and explainable AI systems in high-stakes domains (e.g., Binns, 2018; Ribeiro et al., 2016). Participants were more likely to rate dispute outcomes positively when the AI system was perceived as adaptive and fair. Moreover, the AI design significantly influenced mediator function, which in turn strongly predicted dispute resolution outcomes. This mediation pathway highlights the central role of perceived mediator performance, regardless of whether the mediator is human or artificial.

The multi-group analysis revealed that dispute type moderates the impact of the mediator role on resolution outcomes. The influence was strongest in family disputes, likely due to the emotionally charged and relational nature of such conflicts, which require greater empathy and facilitation. In contrast, the impact was weaker in commercial disputes, where procedural clarity and transactional outcomes may matter more than interpersonal dynamics. These findings are in line with conflict literature emphasizing contextual factors (Wall & Dunne, 2012; Coleman et al., 2000) and suggest that AI mediators must be adaptive to the dispute domain to maintain effectiveness.

The significance of the chi-square difference test ($\Delta\chi^2 = 18.2$, $p = 0.0004$) further reinforces that dispute context meaningfully alters the mediator's impact. As such, the study not only confirms the mediating mechanism through which personality and design variables operate, but also underlines the importance of customizing mediation approaches based on the nature of the conflict.

Taken together, these findings underscore the potential for integrating psychological insights and design principles in developing more effective AI-mediated conflict resolution systems. Future research should consider longitudinal models and real-time dispute environments to validate these pathways. Additionally, the evolving role of AI in legal and organizational mediation contexts necessitates an ethical and inclusive design perspective to ensure fair, trustworthy, and context-sensitive solutions.

8. Conclusion

This research explored the dynamic interplay between individual personality traits, AI mediator design, and dispute resolution effectiveness, with a particular focus on the mediating role of mediator function and the moderating influence of dispute type. By integrating psychological, technological, and contextual dimensions, the study contributes a multidimensional understanding of how conflict resolution processes can be enhanced in both human and AI-mediated environments.

Practical Implications

1) The strong influence of usability, transparency, adaptability, and perceived fairness highlights the importance of user-centered AI design. Designers and developers should prioritize interfaces and interaction mechanisms that are intuitive, explainable, and capable of dynamically adjusting to user needs.
2) AI systems can tailor their communication style, tone, or negotiation strategies based on whether the user is more agreeable, conscientious, or emotionally stable.
3) Whether human or AI-based, the mediator role remains central to dispute resolution success. Organizations and developers must ensure that the mediator—be it a bot or human—emphasizes neutrality, effective facilitation, and empathetic communication to achieve desirable outcomes.
4) The moderation analysis suggests that mediation strategies should vary depending on the type of dispute. For example, AI systems dealing with family conflicts may need to adopt a more empathetic and relational tone, while in commercial disputes, a fact-based and outcome-driven approach may be more effective. This calls for domain-specific AI mediator modules tailored to distinct dispute categories.

Future Scope

Building on this study's insights, several avenues for future research and development emerge:

1) While the current study relies on model-based analysis and survey data, future research should explore the findings in real-world dispute resolution settings, both online and offline.
2) Dispute resolution is a process that evolves. Future studies could use longitudinal data to examine how the effectiveness of AI mediators and the influence of personality traits change across different stages of conflict and resolution.

3) Cultural dimensions play a crucial role in personality expression, conflict style, and perception of fairness. Future research should explore how cultural context moderates the impact of personality traits and mediator design, offering insights for developing culturally adaptive AI systems.
4) For practical deployment, AI mediators can be integrated into legal technology platforms for arbitration or HR conflict resolution tools within organizations. Future studies could explore system compatibility, organizational adoption barriers, and user acceptance in such integrated ecosystems.
5) A key limitation of this study is the use of purposive, cross-sectional sampling, which restricts the generalizability of the findings beyond the specific participant group and contexts examined. Future research should employ probability-based and longitudinal designs across diverse populations to enhance external validity and causal inference.

References

[1] Acquisti, A., Brandimarte, L., & Loewenstein, G. (2015). Privacy and human behavior in the age of information. *Science, 347*(6221), 509–514. https://doi.org/10.1126/science.aaa1465
[2] Ahn, H. S., & Picard, R. W. (2005). Affective-cognitive learning and decision making: The role of emotions. *Proceedings of the IEEE Intelligent Transportation Systems*, 967–972.
[3] Allen, N. J., & Meyer, J. P. (1996). Affective, continuance, and normative commitment to the organization: An examination of construct validity. *Journal of Vocational Behavior, 49*(3), 252–276. https://doi.org/10.1006/jvbe.1996.0043
[4] Amabile, T. M. (1996). *Creativity in context*. Westview Press.
[5] Anderson, M. C., & Ross, W. H. (2003). Questions and questioning: Research perspectives. In R. M. Sorrentino & S. Y. Douglas (Eds.), *Handbook of Communication and Social Interaction Skills* (pp. 315–344). Routledge.
[6] Appelbaum, S. H., & Shapiro, B. T. (1998). The management of multicultural group conflict. *Team Performance Management, 4*(5), 211–234. https://doi.org/10.1108/13527599810234173
[7] Arvanitis, A., & Karampatzakis, D. (2021). Trust in AI: A psychological perspective. *AI & Society, 36*, 509–521. https://doi.org/10.1007/s00146-020-01012-z.
[8] Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research. *Journal of Personality and Social Psychology, 51*(6), 1173–1182. https://doi.org/10.1037/0022-3514.51.6.1173.
[9] Barry, B., & Friedman, R. A. (1998). Bargainer characteristics in distributive and integrative negotiation. *Journal of Personality and Social Psychology, 74*(2), 345–359. https://doi.org/10.1037/0022-3514.74.2.345.
[10] Beale, R., & Wood, A. (2015). Measuring users' emotional responses to AI systems. *International Journal of Human-Computer Studies, 84*, 1–13.
[11] Bechara, A., Damasio, H., & Damasio, A. R. (2000). Emotion, decision making, and the orbitofrontal cortex. *Cerebral Cortex, 10*(3), 295–307. https://doi.org/10.1093/cercor/10.3.295.
[12] Ben-Ner, A., & Putterman, L. (2001). Trusting and trustworthiness. *Journal of Economic Behavior & Organization, 43*(3), 371–394.
[13] Binns, R. (2018). Fairness in machine learning: Lessons from political philosophy. *Proceedings of the 2018 Conference on Fairness, Accountability and Transparency*, 149–159.
[14] Binns, R., Veale, M., Van Kleek, M., & Shadbolt, N. (2018). 'It's reducing a human being to a percentage': Citizens' views of automated decision-making. *CHI Conference on Human Factors in Computing Systems*, 1–14. https://doi.org/10.1145/3173574.3173951.
[15] Broekens, J., Jacobs, E., & Jonker, C. M. (2013). A reinforcement learning model of emotion regulation. *Biological Psychology, 92*(3), 417–428.
[16] Brett, J. M. (2007). *Negotiating globally: How to negotiate deals, resolve disputes, and make decisions across cultural boundaries* (2nd ed.). Jossey-Bass.
[17] Buss, D. M. (1991). Evolutionary personality psychology. *Annual Review of Psychology, 42*, 459–491. https://doi.org/10.1146/annurev.ps.42.020191.002331.
[18] Buss, D. M., & Plomin, R. (2014). *Temperament: Early-developing personality traits*. Routledge.
[19] Carnevale, P. J., & Probst, T. M. (1998). Social values and social conflict in creative problem solving and categorization. *Journal of Personality and Social Psychology, 74*(5), 1300–1309. https://doi.org/10.1037/0022-3514.74.5.1300.
[20] Carver, C. S., & Scheier, M. F. (2014). *Perspectives on personality* (7th ed.). Pearson.
[21] Charkhabi, M., Abarghuei, M. A., & Hayati, D. (2013). The relation of personality traits and conflict resolution styles. *Procedia - Social and Behavioral Sciences, 84*, 550–554. https://doi.org/10.1016/j.sbspro.2013.06.600.
[22] Cialdini, R. B. (2001). *Influence: Science and practice* (4th ed.). Allyn & Bacon.
[23] Colson, E. (2021). *Online Dispute Resolution for Business: B2B, E-commerce, Consumer, Employment, Insurance, and Other Commercial Conflicts*. American Bar Association.
[24] Costa, P. T., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual*. Psychological Assessment Resources.
[25] Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–340. https://doi.org/10.2307/249008.
[26] De Dreu, C. K. W., & Van Vianen, A. E. M. (2001). Personality in teams: Its relationship to social cohesion, task cohesion, and team performance. *European Journal of Work and Organizational Psychology, 10*(2), 97–120. https://doi.org/10.1080/13594320143000573.
[27] Deutsch, M., & Coleman, P. T. (Eds.). (2011). *The handbook of conflict resolution: Theory and practice* (2nd ed.). Jossey-Bass.
[28] Donohue, W. A. (1981). Analyzing negotiation tactics: Development of a negotiation interact coding system. *Human Communication Research, 7*(3), 273–287. https://doi.org/10.1111/j.1468-2958.1981.tb00571.x
[29] Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review, 14*(1), 57–74. https://doi.org/10.2307/258191
[30] Fehr, R., Gelfand, M. J., & Nag, M. (2010). The road to forgiveness: A meta-analytic synthesis of its situational and dispositional correlates. *Psychological Bulletin, 136*(5), 894–914. https://doi.org/10.1037/a0019993.
[31] Fiske, S. T., & Taylor, S. E. (2013). *Social cognition: From brains to culture* (2nd ed.). Sage. https://doi.org/10.4135/9781529681451
[32] Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist, 48*(1), 26–34. https://doi.org/10.1037/0003-066X.48.1.26.
[33] Goleman, D. (1995). *Emotional intelligence: Why it can matter more than IQ*. Bantam Books.
[34] Gratch, J., & Marsella, S. (2005). Evaluating a computational model of emotion. *Autonomous Agents and Multi-Agent Systems, 11*(1), 23–43. https://doi.org/10.1007/s10458-005-1081-1
[35] Gunkel, D. J. (2018). *Robot rights*. MIT Press. https://doi.org/10.7551/mitpress/11444.001.0001.
[36] John, O. P., & Srivastava, S. (1999). The Big-Five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (2nd ed., pp. 102–138). Guilford Press.
[37] Jung, C. G. (1971). *Psychological types* (Vol. 6). Princeton University Press.
[38] Kahneman, D. (2011). *Thinking, fast and slow*. Farrar, Straus and Giroux.
[39] Kotsialos, A., & Papageorgiou, M. (2001). AI tools in online traffic management: A review. *Transportation Research Part C: Emerging Technologies, 9*(6), 403–424.
[40] Kumar, S., & Sharma, R. (2021). Artificial intelligence in dispute resolution: A conceptual framework. *Journal of Business Research, 124*, 403–412.
[41] Langer, E. J. (1989). *Mindfulness*. Addison-Wesley.

[42] LeBaron, M. (2003). *Bridging cultural conflicts: A new approach for a changing world*. Jossey-Bass.
[43] Lewicki, R. J., Barry, B., & Saunders, D. M. (2015). *Negotiation* (7th ed.). McGraw-Hill Education.
[44] Mayer, J. D., Salovey, P., & Caruso, D. R. (2004). Emotional intelligence: Theory, findings, and implications. *Psychological Inquiry, 15*(3), 197–215.
[45] Parkes, D. C., & Wellman, M. P. (2015). Economic reasoning and artificial intelligence. *Science, 349*(6245), 267–272. https://doi.org/10.1207/s15327965pli1503_02
[46] Picard, R. W. (1997). *Affective computing*. MIT Press. https://doi.org/10.7551/mitpress/1140.001.0001.
[47] Shell, G. R. (2006). *Bargaining for advantage: Negotiation strategies for reasonable people*. Penguin.
[48] Thaler, R. H., & Sunstein, C. R. (2008). *Nudge: Improving decisions about health, wealth, and happiness*. Yale University Press.
[49] Van den Bos, K., Lind, E. A., & Wilke, H. A. M. (2001). The psychology of procedural and distributive justice viewed from the perspective of fairness heuristic theory. *Justice in the Workplace, 2*, 49–66.
[50] Van der Aalst, W. M. P. (2016). *Process mining: Data science in action* (2nd ed.). Springer. https://doi.org/10.1007/978-3-662-49851-4.

Appendix

Ethical Considerations
All participants provided informed consent. Participation was voluntary and anonymous, and the study followed ethical guidelines for social science research.

Construct	Sub-Dimension	Item	Scale
Personality Traits (Human Mediator)	Openness	The mediator was open to new ideas during the mediation process.	5-point Likert (1–5)
	Conscientiousness	The mediator was well-prepared and organized throughout the session.	5-point Likert (1–5)
	Extraversion	The mediator was outgoing and assertive in managing the session.	5-point Likert (1–5)
	Agreeableness	The mediator was empathetic and cooperative.	5-point Likert (1–5)
	Emotional Stability	The mediator remained calm and composed under pressure.	5-point Likert (1–5)
AI Mediator Design	Usability	The AI system was easy to use and understand.	5-point Likert (1–5)
	Transparency	The AI mediator explained its recommendations clearly.	5-point Likert (1–5)
	Perceived Fairness	The AI mediator treated both parties impartially.	5-point Likert (1–5)
	Adaptability	The AI mediator responded appropriately to different dispute scenarios.	5-point Likert (1–5)
Mediator Role	Neutrality	The mediator remained unbiased throughout the process.	5-point Likert (1–5)
	Facilitation	The mediator helped both parties express their views clearly.	5-point Likert (1–5)
	Communication Style	The mediator communicated in a respectful and professional manner.	5-point Likert (1–5)
Dispute Resolution Effectiveness	Resolution Outcome	The dispute was resolved satisfactorily.	5-point Likert (1–5)
	Satisfaction	I am satisfied with the overall mediation process.	5-point Likert (1–5)
	Perceived Fairness	The outcome felt fair to all parties involved.	5-point Likert (1–5)
	Willingness to Use Again	I would use this mediation method again in the future.	5-point Likert (1–5)
Type of Dispute (Moderator)	—	Please select the dispute type: Family (1)/ Workplace (2)/ Commercial (3)/ Other (4)	Categorical (Tick one)

Scale: 5-point Likert (1 = Strongly Disagree, 5 = Strongly Agree).