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ARTIFICIAL INTELLIGENCE AND ARBITRATION IN THE MIDDLE EAST: AN EMPIRICAL COMPARATIVE STUDY OF JORDAN AND BAHRAIN USING TAM

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ABSTRACT

Artificial intelligence (AI) is increasingly being integrated into professional services, yet its application in arbitration remains underexplored, particularly in emerging economies. This study investigates the factors influencing AI adoption in arbitration in Jordan and Bahrain, extending the Technology Acceptance Model (TAM) with institutional and ethical dimensions. Using survey data from 170 respondents in Jordan and 142 in Bahrain, and applying Partial Least Squares Structural Equation Modeling (PLS-SEM), the research tests both mediating and moderating relationships. The results show that adoption pathways differ across the two contexts. In Jordan, adoption is primarily shaped by trust, security, and ease of use, reflecting a cautious and risk-sensitive approach. In Bahrain, adoption is driven by usefulness, transparency, and regulatory support, underscoring the role of governance maturity. Attitudes were found to mediate the influence of usefulness, trust, and transparency on behavioral intention, while regulatory support strengthened the translation of intention into actual use. These findings contribute to theory by extending TAM to legal and ethical domains and highlight the importance of institutional maturity in shaping adoption outcomes. Practically, the study offers tailored recommendations for policymakers, arbitrators, and technology developers in fostering responsible AI adoption in arbitration.

KEYWORDS: Artificial Intelligence, Arbitration, Technology Acceptance Model, Trust, Regulatory Support.

1. INTRODUCTION

Artificial intelligence (AI) has become a transformative change that is changing economies, institutions, and societies in the world. Artificial intelligence is used to improve decision-making and simplify the process and expenses in various industries, including healthcare and finance (Dwivedi et al., 2021; Shneiderman, 2020). In spite of these developments, the legal practice, especially arbitration, is a field that is not well explored. Given the heavy documentation requirements, the fact that arbitration presupposes the strict following of procedural rules, as well as the necessity of impartiality, AI can be successfully used in arbitration (Alonso & Valero, 2021). However, this integration is not simple to come by since it brings in some of the basic issues of confidentiality, fairness and accountability which go beyond the technical performance.

The adoption of AI in the emerging economies is usually suppressed by the fear of data security, institutional preparedness, and unclear regulatory systems (Nguyen, Ngo, & Ruquel, 2022). This dynamic is well depicted in the Middle East. Bahrain has attempted to establish itself as a digital center in the area, making AI a part of its Economic Vision 2030 and sponsoring initiatives with proactive governance approaches (Nasruddin & Struckman, 2024). Digital case management and remote hearings are already offered by the Bahrain Chamber of Dispute Resolution (BCDR), and alliances with various platforms, including Jus Mundi, show the willingness to use AI-aided legal technology (DailyJus, 2024). Jordan, on the contrary, has made significant but sensible measures. In 2020, the government released a National AI Policy and a National AI Ethics Code, which is an indication of the increasing awareness of the role of AI (MoDEE, 2020, 2022). Nevertheless, researchers observe that there are still loopholes in the use of effective intellectual-property laws and data-security laws, which undermines the trust in its use (Legal Laws & IP in Jordan, 2025).

In other parts of the Arab world, the same arguments are being played out. In the UAE, conversely, the research has explored the aspect of implementing AI in arbitration and has identified several challenges, including secrecy, bias, and protection of fairness in the automated procedures (Shalaby et al., 2022). Such regional experiences prove that the willingness to adopt AI is not as uniform, but rather it is predetermined by significantly different institutional and regulatory conditions. In the case of Jordan and Bahrain,

especially, a comparative analysis of the adoption process provides a chance to appreciate the extent to which institutional maturity and cultural pressure shape the perceptions and use of AI in arbitration by professionals (Mustafa & Shehada, 2025a,b,c).

Technology Acceptance Model (TAM) has become a beneficial tool to investigate the adoption of the technology as perceived usefulness (PU) and perceived ease of use (PEOU) are the major determinants of behavioural intention (Venkatesh et al., 2021). Nonetheless, in high stakes situations like arbitration, these factors cannot adequately determine the adoption outcomes. The legal professionals should also think about the possibility to trust AI systems, their ability to keep the data safe, the transparency of their decision-making process, and the support offered by the regulators to justify their application. These dimensions have taken their place in the adoption research of sensitive areas where efficiency is not the primary factor but accountability and legitimacy (Longoni, Bonezzi, and Morewedge, 2022; Floridi, 2021).

However, the empirical research regarding the application of AI in arbitration in the Arab world is limited despite the increased interest in AI governance. Fintech, healthcare, or education are the main areas of studies, whereas legal applications are ignored. Besides, comparative research across the emerging economies is uncommon, despite the fact that adoption pathways may vary greatly, based on the governance arrangements, cultural predispositions, and institutional maturity (Susanto, Tjahjono, & Wibowo, 2023). In the absence of such insights, theories on global adoption may omit considering how professionals in different national environments judge, place their trust in and eventually embrace AI (Ghazal et al., 2025; Shweki et al., 2025).

The paper aims to bridge that divide by incorporating TAM with ethical and institutional constructs, trust, security, transparency and regulatory support, and validating their impacts on adoption in arbitration. Particularly, it looks at the mediating effect of the attitudes of the user and moderating effect of regulation in the translation of intention to actual use. Comparing two opposite examples: Jordan and Bahrain, this study advances the theory by adding to TAM the ability to understand adoption in sensitive legal areas, and to practice by providing policy implications, arbitration, and technology developers. In essence, the paper will argue that the introduction of AI in arbitration is not simply an issue of technology but an issue of governance that is influenced by trust,

transparency and institutional preparedness.

This study advances existing AI adoption literature in three important ways. First, it extends the Technology Acceptance Model (TAM) into high-stakes legal environments by integrating institutional and ethical constructs—trust, security, transparency, and regulatory support—thereby moving beyond traditional utility-based explanations. Second, it introduces and empirically validates the moderating role of regulatory support in translating behavioral intention into actual use, addressing a gap in adoption research concerning governance-enabled diffusion. Third, through a comparative cross-country design, it demonstrates that adoption pathways differ systematically according to institutional maturity, offering contextual refinement to global technology acceptance theory.

2. LITERATURE REVIEW

2.1. Artificial Intelligence in legal and Arbitration Contexts

Artificial intelligence (AI) continues to transform the professional practice in any industry, and the sphere of law has not been an exception. The field of arbitration has gained specific interest due to the use of mass amounts of documentation, efficiency of the procedures, and the lack of any biased opinion (Alonso & Valero, 2021). The use of AI has already proven that it can help in legal work in areas like reviewing contracts, managing evidence and even determining the outcome of cases. These processes can be automated by AI, which will lead to the increase in costs reduction, faster case resolution, and increased consistency in the case ruling. Although they exist, the use of AI in arbitration is currently in its infancy, especially in the case of legal systems that are yet to undergo the digital transformation (Susanto, Tjahjono, & Wibowo, 2023).

Unlike the well-documented application of AI in the fields of healthcare, finances, and education, the scientific research on the application of AI to legal practice is scattered. Most of the current research focuses more on the benefits of AI and less on the obstacles related to ethical, cultural, and institutional factors (Longoni et al., 2022). This loophole is particularly apparent in the Middle East where arbitration has become a key element in the resolution of commercial disputes. As an example, a study conducted in the UAE discusses the experimentation of digital and AI-assisted arbitration tools by the institutions, yet issues related to privacy and algorithmic fairness are limiting their use (Shalaby, 2022). Equally, institutional support and digital literacy are found to be critical factors that

determine the adoption of AI in public services in Saudi Arabia (Alotaibi 2022). Digital transformation within the judiciary in Jordan has been implemented more tentatively, as scholars have observed that the legacy infrastructure and a lack of regulatory clarity have propelled the intelligent adoption of AI (Al-Rawashdeh, 2023). Such examples demonstrate the fact that the use of AI in arbitration should be researched not only technically but also in the socio-institutional context as a whole.

2.2 Technology Acceptance Model and Its Extensions

Technology Acceptance Model (TAM) remains to be among the most widely used models of technology adoption. It determines the perceived usefulness (PU) and perceived ease of use (PEOU) to be the key antecedents of behavioural intention (Venkatesh, Morris, Davis, and Davis, 2021). Longitudinal studies have always indicated that when users perceive technologies as valuable and easy to use, the chances of adoption increase significantly.

However, in extremely sensitive fields like arbitration, original TAM formulation might be insufficient in explaining the adoption decisions. The legality professionals make their decisions not only on functional qualities but also on trust in the institution, legitimacy of the regulations and ethical protection. Researchers argue that adoption in high-stakes environments requires an expansion of TAM to include larger constructs that would reflect these realities (Dwivedi et al., 2021; Nguyen, Ngo, and Ruquel, 2022). This suggestion is supported by empirical data of the Arab world. In line with an example, the studies of legal e-services in the UAE indicate that institutional trust and perceived accountability are both as relevant to the adoption as ease of use (Alshehhi and Hussain, 2021). Similarly, a study carried out in Saudi Arabia suggests that the implementation of digital platforms in higher education is subject to the cultural demands and the attitude towards fairness, thus going beyond the limitations of the initial TAM framework (Almalki, 2021). Extended Gulf-regional research also demonstrates that UTAUT-based frameworks that also consider social influence as well as facilitating factors are more adequate to elucidate user behaviour in online adoption (Alghamdi and Aziz, 2022). Taken together, these results highlight the importance of inclusion of ethical and institutional aspects in addition to PU and PEOU to obtain a concise overview of the adoption in arbitration settings (Alghizzawi et al., 2024; Alzghoul et al.,

2024).

2.3 Trust, Security, and Transparency in AI Adoption

The topic of AI adoption has adopted trust as a central component. Without trust, the most effective systems will be met with doubt and opposition (Dwivedi et al., 2021). This issue is increased in the arbitration process since cases in arbitration may entail commercially sensitive data, a lot of financial interests, and reputation losses. Lawyers have thus got the assurance that using AI systems will give them the same and fair results without compromising the privacy (Alawamleh et al., 2025; Hashem et al., 2025).

This is strengthened by security and privacy. Research revealed that users do not embrace AI when they feel risky in the storage and processing of their personal or sensitive information (Nguyen et al., 2022). In Jordan, data privacy has been found to be a determinant factor affecting the adoption of fintech, where the fear of data security is often more significant than the interest in efficiency (Alzubi, Alrifae, and Atieh, 2025). Other analogous remarks can be drawn to Kuwait where the issues with the ineffective data protection frameworks have undermined the trust towards the digital systems (Al-Shammari, 2022).

Transparency also plays a very important role. Lawyers are hoping to understand how AI actually reaches its conclusions or solutions; black-box systems tend to destroy this trust. On the other hand, explainable AI promotes accountability and adoption (Longoni et al., 2022; Shneiderman, 2020). On a policy level, Bahrain has clearly incorporated transparency in its AI governance policy, which is associated with accountability and professional legitimacy (Bahrain Gov, 2024). These instances show that trust, security, and transparency are critical requirements in arbitration and not a nice-to-have feature of responsible AI integration (Hashem, 2024).

2.4. Regulatory Support and Institutional Context

The environment in which adoption is made exists under institutional preparedness and regulatory facilitation. Strong governance systems decrease ambiguity and clarify responsibility and provide users with an assurance that AI is used in a way that complies with the law (Gonzo-Zapata and Heeks, 2020). On the other hand, the adoption can be frozen even when users are otherwise motivated by a weak or ambiguous regulation.

Bahrain is a perfect case of regulatory maturity. Its

Economic Vision 2030 directly includes AI as one of the strategic engines of national development, motivating arbitration institutions to digitalise their operations (Nasruddin and Struckman, 2024). Digital case management has already been deployed by the Bahrain Chamber of Dispute Resolution (BCDR) and collaborated with Jus Mundi to increase access to AI-driven legal intelligence (DailyJus, 2024). By contrast, Jordan has published a National AI Policy (2020) and an AI Ethics Code (2022), although there are still implementation and institutional infrastructure gaps (MoDEE, 2022; Legal Laws and IP in Jordan, 2025). These differences imply that regulatory support would tend to ameliorate the relationship between the intention and actual use of the behaviour with the more mature systems promoting quicker adoption (AL Shibly & Alghizzawi, 2024).

The adoption drivers are found to be different based on governance capacity, as confirmed by comparative studies. The former is usefulness and institutional trust, and the latter is an ease of use and assurance in security (Susanto et al., 2023). These lessons indicate that it is worth contrasting Jordan, which has a more conservative strategy, with Bahrain, in which regulatory maturity drives adoption faster.

2.5. Global Perspectives and Ethical Considerations

The use of AI in law is a pressing issue of concern all over the world in regards to bias, fairness and accountability. The international standards like the OECD Principles on AI (2021), EU AI Act (2023) and the UNESCO Recommendation on the Ethics of AI (2021) emphasize the significance of transparency, human control, and regulatory consistency. Through these initiatives, there are standards of responsible adoption, yet there are diverse implementations in different areas.

In the Arab region, researchers believe that the regional adoption pathways are conditioned by the cultural trust in the institutions, the availability of resources, and their conformity to the larger digital economy strategies (Clyde and Co., 2025). An example of this is the focus of Bahrain on transparency and explainability by virtue of the country being a regional digital hub, versus the more conservative approach of Jordan by its institutions which is still in the process of consolidation. These comparisons show that the global structures have a role to play, but localised authorities and the culture are the main aspects that shape how the principles of responsible AI operationalisation are implemented (Alnimer, 2026; Mohamaed & Alnimer, 2026).

2.6 Research Gap and Contribution

Although there is an increasing body of research on the use of AI, it still has some gaps. To begin with, not many studies have been conducted focusing on the adoption of AI in the context of arbitration as the specified area is particularly sensitive to ethical, institutional, and procedural issues. Second, scarce empirical literature looks at the role of attitudes as mediating the links between usefulness, trust, and transparency or regulatory support as mediating the intentions-actual use linkage. Third, cross country research on the adoption is limited, despite indications that adoption routes are different based on regulatory maturity and culture.

The current paper fills these gaps by generalizing TAM to include institutional and ethical aspects and using the ensuing model to arbitration in Jordan and Bahrain. Its contribution has tripled. Theoretically, it shows the interaction of the regulatory maturity and cultural context with the user perceptions. It provides empirical evidence on one of the earliest cross-country studies on AI adoption in arbitration in the Arab world. In practice, it offers practical recommendations to policymakers, arbitrators, and law enforcement agencies on the promotion of responsible and effective AI adoption in dispute resolution.

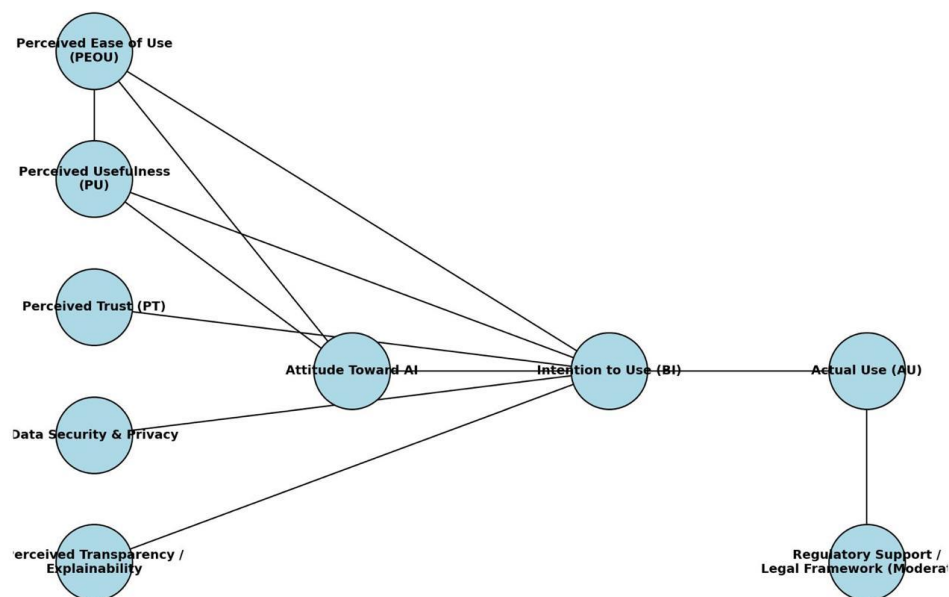


Figure 1: Research Model.

3. METHODOLOGY

The current research utilized a comparative, cross-sectional survey research design in order to examine the factors that determine the adoption of artificial intelligence (AI) in arbitration in Jordan and Bahrain. The analytical framework based on Technology Acceptance Model (TAM); still, it was supplemented by the constructs that are specific to the legal and institutional environment, such as trust, data security and privacy, transparency, and regulatory support. In Jordan and Bahrain 170 and 142 valid responses were received respectively. The respondents were people who have already used AI tools in their workplace or academic life, mostly in the legal or arbitration field. The resulting heterogeneity of the sample in age, gender, and professional role contributed to the rich data, as the literature available suggests that the attitudes of users towards the use of AI differ depending on the

demographic levels (Dwivedi et al., 2021; Susanto et al., 2023).

The survey tool was based on the existing scales of measurement. The constructs related to the perceived ease of use and the perceived usefulness were based on the previous TAM literature on AI and FinTech settings (Alzubi et al., 2025; Taqa, 2025). The information systems research has informed the construction of trust items that emphasized the role of trust as a core component of technology acceptance (Dwivedi et al., 2021). In order to elicit issues related to security and privacy, objects were modified using the recent cybersecurity and adoption of digital finance literature (Nguyen et al., 2022). Measures of transparency and explainability were based on items that were based on the ethical and accountable AI discourse (Shneiderman, 2020; Longoni et al., 2022). TAM and UTAUT extensions were used to constructs of attitude towards AI, behavioural intention, and actual use, which are used

most often in digital transformation studies (Venkatesh et al., 2021). Lastly, regulatory support and legal frameworks items were designed to indicate the moderating effect of governance and policy on adoption (Gonzalez-Zapata and Heeks, 2020, Zeng et al., 2021). The questionnaire was reviewed by the experts of the world of science and arbitration and a pilot test with 35 participants proved its integrity and cultural applicability.

The collection of the data was carried out online within March 2025-May 2025, with a seven-point Likert scale of strongly disagree to strongly agree. The surveys were circulated via the professional networks, LinkedIn groups, and institutional mailing lists, and thus made it possible to reach practitioners and professionals in the two jurisdictions. Since the phenomenon under investigation is digital, online data collection was considered especially suitable and meets modern research recommendations of the implementation of technologies (Hair et al., 2021; Sarstedt et al., 2021).

In the analytical stage, the analysis employed Partial Least Squares Structural Equation Modeling (PLS -SEM) through SmartPLS 4. This is most appropriate to complicated models with mediating, as well as moderating effects and also moderate sample sizes as is the case with the present study. The alpha of Cronbach, and the composite reliability were used to determine the reliability, and the average variance extracted (AVE) was used to determine convergent validity. The FornellLarcker criterion was used to check discriminant validity and the heterotraitmonotrait (HTMT) ratio (Henseler et al., 2015). Structural relationships were then tested and path coefficients, explanatory power (R²), effect

sizes (f²) and predictive relevance (Q²) analyzed using a bootstrapping process that used 5,000 subsamples to robustly test the findings.

Since the comparative objective was considered, special attention was given to measurement invariance between the two samples. Measurement Invariance of Composite Models (MICOM) procedure was used in order to establish configural and compositional invariance and therefore allow meaningful cross-group analysis. The following Multi-Group Analysis (MGA) found statistically important differences in path strength between Jordan and Bahrain, which is in line with current best practices of comparative PLS-SEM studies (Cheah et al., 2020; Sarstedt et al., 2021).

4. RESULTS

The first part of the measurement model was tested in terms of reliability and validity. The results of Table 1 indicated that all factor loadings were greater than the 0.70 standard and the Cronbach alpha and composite reliability values were also above 0.70, which supported that the measures have great internal consistency. It means that the positive perception regarding the usefulness of AI in facilitating the arbitration process, confidence in the use of digital case-management tools, and the perception of transparency of the algorithm in decision-supporting have been uniformly represented among respondents. These findings prove the moderate reliability of constructs measurement both in Jordan and Bahrain (Hair et al., 2021).

Table 1: Factor Loadings and Reliability (Measurement Model).

Construct	Item	Loading (Jordan)	Loading (Bahrain)	A	CR	AVE
PEOU	PEOU1-4	0.74-0.86	0.71-0.83	0.82	0.85	0.56
PU	PU1-4	0.75-0.88	0.72-0.86	0.84	0.87	0.59
Trust	TR1-4	0.78-0.90	0.74-0.87	0.88	0.9	0.62
Security	SEC1-3	0.72-0.84	0.70-0.82	0.81	0.84	0.55
Transparency	TRANS1-3	0.76-0.89	0.78-0.91	0.85	0.88	0.63
Attitude	ATT1-3	0.80-0.91	0.82-0.90	0.87	0.9	0.64
BI	BI1-3	0.83-0.92	0.84-0.93	0.9	0.92	0.67
AU	AU1-3	0.78-0.89	0.80-0.90	0.85	0.88	0.61

The confirmatory factor analysis further demonstrated strong model fit. Table 2 shows that the estimated model fit indices (χ^2/df , CFI, TLI, RMSEA, SRMR) all met recommended thresholds (Hu & Bentler, 2020), supporting the robustness of the measurement model.

Table 2: CFA Model Fit Results (Null vs. Estimated Model).

Model	χ^2/df	CFI	TLI	RMSEA	SRMR
Null Model	8.15	0.41	0.38	0.21	0.18

Estimated Model	2.04	0.94	0.93	0.05	0.04
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Discriminant validity was confirmed using HTMT ratios, presented in Table 3. All HTMT values were below the 0.85 criterion, and the bootstrapped confidence intervals did not include 1.0, further supporting discriminant validity (Henseler et al., 2015).

Table 3: HTMT Ratios with Bootstrapped Confidence Intervals.

Construct Pair	Jordan HTMT (95% CI)	Bahrain HTMT (95% CI)
PEOU-PU	0.62 [0.51-0.72]	0.59 [0.48-0.70]
PU-Attitude	0.71 [0.61-0.79]	0.74 [0.64-0.82]
Trust-Attitude	0.68 [0.57-0.76]	0.55 [0.44-0.65]
Security-Attitude	0.64 [0.53-0.74]	0.46 [0.35-0.56]
Transparency-Attitude	0.66 [0.55-0.75]	0.72 [0.61-0.81]

The structural model was then assessed. As shown in Table 4, the goodness-of-fit indices for the PLS-SEM structural model met accepted thresholds, indicating strong global model adequacy.

Table 4: Structural Model Goodness-of-Fit.

Index	Jordan	Bahrain	Threshold
SRMR	0.061	0.058	< 0.08
NFI	0.91	0.93	> 0.90
RMS_theta	0.12	0.11	< 0.12

Table 5 shows the direct effects of the study and the hypothesis testing results. In Jordan, the perceived ease of use has a strong and statistically significant influence on perceived usefulness, indicating that the perceived ease of use by legal practitioners and arbitrators is strong and relies on intuitive and easy-to-use AI tools to identify their

usefulness in handling arbitration documents or scheduling hearings. This association was less strong in Bahrain, indicative of a more digitally mature arbitration space in which the community of practitioners thinks of AI mainly in the context of demonstrable advantages, like the reduction of case backlog or the enhancement of award efficiency.

Hypothesis	Path	Jordan β (p)	Bahrain β (p)	Supported
H1	PEOU $\rightarrow$ PU	0.46***	0.29**	Yes
H2	PU $\rightarrow$ Attitude	0.31**	0.42***	Yes
H3	Trust $\rightarrow$ Attitude	0.37***	0.20*	Yes
H4	Security $\rightarrow$ Attitude	0.26*	0.09 (ns)	Partial
H5	Transparency $\rightarrow$ Attitude	0.22*	0.34***	Yes
H6	Attitude $\rightarrow$ BI	0.52***	0.57***	Yes
H7	BI $\rightarrow$ AU	0.50***	0.62***	Yes
H8	Regulatory Support (Moderating BI $\rightarrow$ AU)	0.18*	0.31***	Yes

Table 5: Direct Effects and Hypotheses Testing.

Interaction plots were used to investigate the moderating position of regulatory support. As shown in figure 2, support of regulations enhanced the association between behavioural intention and actual use, in both Jordan and Bahrain. The moderation effect in Jordan was positive but small meaning that despite the favourable regulation, trust

and security concerns moderate the adoption. The impact was much more pronounced in Bahrain: where regulatory support was high, intentions more easily turned into actual adoption. These results affirm that the maturity of regulation is a key determinant of the intention to practice transformation in the adoption of AI in arbitration.

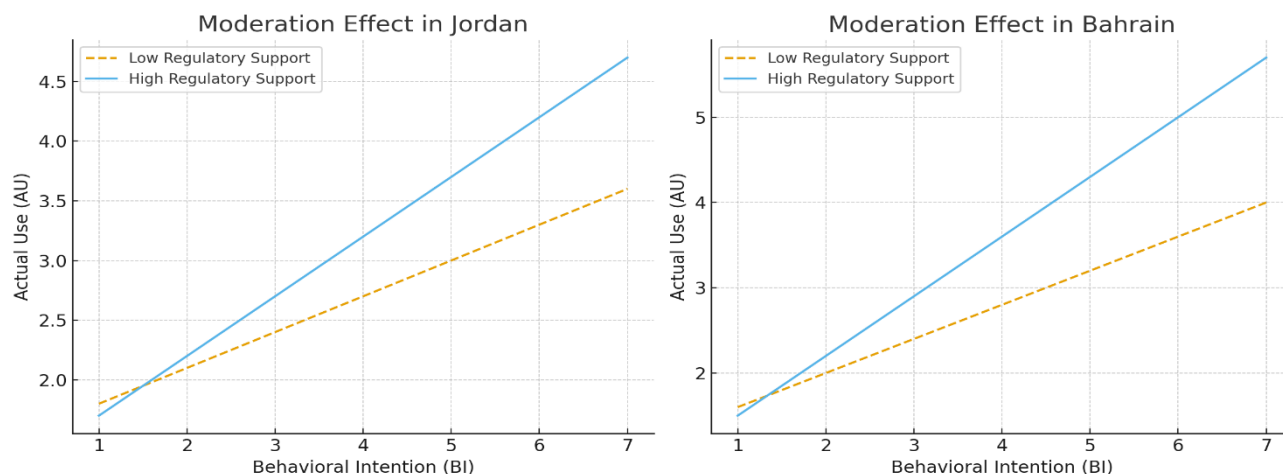


Figure 2: Moderation effect in Jordan and Bahrain.

Mediation analysis in Table 6 confirmed that attitudes mediated the effects of PU, trust, and transparency on behavioral intention in both countries. These mediations were stronger in Bahrain for usefulness and transparency, and stronger in Jordan for trust.

Table 6: Mediation Effects and Hypotheses Testing.

Hypothesis	Indirect Effect	Jordan β (p)	Bahrain β (p)
PU $\rightarrow$ Attitude $\rightarrow$ BI	0.16**	0.24***	Yes
Trust $\rightarrow$ Attitude $\rightarrow$ BI	0.19***	0.11*	Yes
Transparency $\rightarrow$ Attitude $\rightarrow$ BI	0.11*	0.19***	Yes

The explanatory power of the model is summarized in Table 7, which shows that the constructs explained moderate to substantial variance in both samples, with slightly stronger predictive capacity in Bahrain.

Table 7: R^2 , Adjusted R^2 , and Effect Sizes (f^2).

Construct	Jordan R^2	Bahrain R^2	f^2 (Range)
Attitude	0.55	0.61	0.10–0.21
BI	0.6	0.67	0.14–0.25
AU	0.51	0.58	0.12–0.23

Predictive validity was also assessed using Q^2 values from blindfolding and PLSpredict. As shown in Table 8, all Q^2 values were positive and exceeded 0.25 for most constructs, confirming medium-to-strong predictive relevance (Shmueli et al., 2019).

Table 8: Predictive Relevance (Q^2 and PLSpredict).

Construct	Jordan Q^2	Bahrain Q^2	Predictive Power
Attitude	0.32	0.35	Medium
BI	0.36	0.41	Strong
AU	0.28	0.33	Medium

Before testing group differences, measurement invariance was established using MICOM. As shown in Table 9, configural and compositional invariance were achieved, enabling valid comparisons across Jordan and Bahrain.

Table 9: MICOM Measurement Invariance Results.

Step	Result	Conclusion
Configural invariance	Established	Same model across groups
Compositional invariance	$p > 0.05$	Supported
Equal means/variances	Partial invariance	Acceptable

Finally, multi-group analysis (MGA) in Table 10 revealed significant differences across several paths. The PEOU $\rightarrow$ PU path was significantly stronger in Jordan, while the PU $\rightarrow$ Attitude, Transparency $\rightarrow$ Attitude, and BI $\rightarrow$ AU paths were significantly stronger in Bahrain. These results highlight how cultural, institutional, and policy differences shape adoption behavior (Sarstedt et al., 2021).

Table 10: Multi-Group Analysis (MGA) Results: Jordan vs. Bahrain.

Path	$\Delta\beta$	p-value	Difference
PEOU $\rightarrow$ PU	0.17	0.01	Stronger in Jordan
PU $\rightarrow$ Attitude	-0.11	0.02	Stronger in Bahrain
Trust $\rightarrow$ Attitude	0.17	0.03	Stronger in Jordan
Security $\rightarrow$ Attitude	0.17	0.04	Stronger in Jordan
Transparency $\rightarrow$ Attitude	-0.12	0.02	Stronger in Bahrain
Attitude $\rightarrow$ BI	-0.05	0.21	No difference
BI $\rightarrow$ AU	-0.12	0.01	Stronger in Bahrain

Combined, the results authenticate the soundness of the measurement model and the significant explanatory ability of the structural one within the two settings. Trust, security, and ease of use are the primary factors that define the adoption of AI in arbitration in Jordan, highlighting a conservative approach, risk-averse approach among the practitioners, who are cautious about the confidentiality and reliability of the systems. In Bahrain, usefulness, transparency and regulatory support are the primary motivators of adoption, which is indicative of a highly developed digital ecosystem and favorable regulatory systems in the nation. Such differences in the context demonstrate the significance of adopting national-specific methods of adoption: in Jordan, the most attention should be paid to establishing trust and enhancing guarantees regarding the data protection, in Bahrain, the strategy should be focused on maintaining the transparency and applying effective laws and regulations. In addition to this practical implication, the research is theoretically valuable to the extent that it increases the scope of the Technology Acceptance Model (TAM) to include institutional and ethical aspects, which proves especially critical in terms of converting intention into actual use which is of significant importance to AI regulation in new economies.

5. DISCUSSION

The current research has analyzed the adoption of the artificial intelligence (AI) in arbitration by applying the Technology Acceptance Model (TAM) to the institutional and ethical constructs. The findings based on the comparison of Jordan and Bahrain, two jurisdictions that can be described using various stages of digital maturity, can help understand the role of governance capacity and institutional preparedness in defining adoption behavior in high-stakes legal settings.

5.1. Drivers of Adoption Differences in the context

The findings indicate the apparent contextual

difference in the adoption patterns. Trust, security and perceived ease of use were the most effective factors of positive attitudes towards AI in Jordan. Such results indicate that the concerns of risk mitigation are more likely to be prioritized to performance optimization in institutionally risk-averse settings. Reliability, confidentiality, and data protection are the factors that seem to be valued by legal professionals before they identify performance-related benefits. This is consistent with a study that revealed that risk perception and institutional weaknesses increase user anxiety in the emerging economies (Dwivedi et al., 2021; Nguyen, Ngo, and Ruquel, 2022). In Jordan, usability was also found to be a more influential factor, which confirms that in less digitally developed environments, usability is an entry point to the perceived value (Venkatesh et al., 2021).

However, in the case of Bahrain, perceived usefulness and transparency produced stronger attitudes. This implies that in more digitally advanced ecosystems, adoption choices change to less risk-avoidance to performance-enhancing and accountability-related expectations. After achieving the initial levels of institutional trust, the practitioners consider AI systems more through the prism of efficiency improvements and decision-support functionality (Marangunić and Granić, 2021). The visibility of transparency also indicates global demands of explainable and accountable AI in the legal spheres (Longoni, Bonezzi, and Morewedge, 2022; OECD, 2021; Shneiderman, 2020). These results ensure that the adoption pathways are influenced by the institutional maturity but not implemented consistently across the contexts.

5.2. The Intermediary Position of Attitudes

As was consistent with TAM, the perception of usefulness, trust, and transparency had a significant impact on the behavioral intention mediated by the attitude in both jurisdictions (Venkatesh et al., 2021). Strength of mediation was however different in countries. Indirect effects of trust were particularly significant in Jordan, and it supports the validity of

the trust-building mechanism in the setting where regulatory certainty and institutional guarantees are yet to be established (Dwivedi et al., 2021). The effects of usefulness, transparency had a stronger mediating impact in Bahrain, which means that efficiency and explainability take on prominent assessing roles in the case of structural confidence assumption (Marangunić et al., 2021; Longoni et al., 2022).

Those findings build upon TAM by showing that although the formation of attitudes is central, the antecedents influencing attitudes are institutionally dependent.

5.3. Supporting Regulatory Conditions as a Moderating Mechanism

Regulatory support is recognized as one of the greatest contributions of this study, in that it revealed the regulation support as a moderator of the relationship between behavioral intention and actual use. The intention was translated into adoption in both Jordan and Bahrain, where regulatory support enhanced the translation more in Bahrain than in Jordan.

This observation confirms the claims that the governance frameworks mitigate ambiguity and justify technological adoption in sensitive areas (Zeng, Lu, and Huangfu, 2021; Floridi, 2021). As opposed to acting as a piece of contextual background, regulation is an institutional scaffolding that allows behavioral realization. In arbitration, where procedural legitimacy and fairness play the key role, the explicit regulatory schemes seem to play the crucial role in making the willingness turn into the regularized practice.

5.4. Theoretical Implications

This study is important to theory in three ways.

First, it TAM reconceptualized in high-stakes legal settings by showing that usefulness and ease of use are not enough to predict adoption in arbitration. The research combines trust, security, transparency, and regulatory support to develop a governance-inculcated meaning of technology acceptance.

Second, it confirms empirically the moderating effect of the regulatory support on the intention use relationship. Regulatory environments are a common contextual factor in prior adoption research (Gonzalez-Zapata and Heeks, 2020) but the presented research shows that they are directly involved in behavioral realization.

Third, the comparative design streamlines the boundary conditions of the adoption theory. The prevalence of trust and security in Jordan is typical of other emerging situations (Dwivedi et al., 2021), and

the usefulness and transparency in Bahrain is more indicative of adoption in more tech-friendly settings (Marangunić and Granić, 2021). This shows that adoption determinants relative weight is conditioned by institutional maturity.

Collectively, these results place the adoption of AI in arbitration not only as a technological problem but as a phenomenon that focuses on governance, which is conditioned by the capacity to institutionalize it.

5.5. Practical and Policy Implications

The findings have various implications in practice.

In the case of a practitioner in Jordan, plans aimed at aligning adoption strategies should emphasize on building trust and security guarantees. Confidence in AI-assisted arbitration systems can be increased by secure digital infrastructure, certification procedures and specific professional training.

Adoption programs in Bahrain should focus on showing usefulness and transparency of algorithms. Accountability can be enhanced through the publication of audit procedures, as well as explainable AI interfaces, which would maintain institutional legitimacy (Shneiderman, 2020).

To developers of technology, arbitration-based AI systems will need to incorporate privacy protection, explainability, and user-friendly interface. The application of adoption in the law, is not only based on technical efficiency but also perceived fairness and accountability (Longoni et al., 2022).

The findings point to the catalytic role of regulatory clarity to policymakers. Based on the experience of Bahrain, established models of governance stimulate adoption through the decrease of uncertainty and strengthening legitimacy (Zeng et al., 2021; Floridi, 2021). Regional cooperation can also contribute to unified AI governance principles within the emerging economies (OECD, 2021).

6. CONCLUSION

This paper has explored artificial intelligence (AI) adoption in the arbitration practice by comparing Jordan and Bahrain as an expansion of the Technology Acceptance Model (TAM) to incorporate the institutional and ethical aspects. The study provided a combination of constructs like trust, security, transparency, and regulatory support to make the research comprehend the individual circumstances that influence the adoption in the high-stakes legal settings. The study also utilized Partial Least Squares Structural Equation Modeling (PLS-SEM) to test both direct and mediating relationships as well as the moderating relationship,

providing insights on a country-specific level and at a cross-country level.

The findings showed a distinct difference in the adoption pathways. The adoption in Jordan was mainly influenced by trust, security, and convenience which showed a conservative practice based on the fear of confidentiality and trustworthiness. Perceived usefulness, transparency, and regulatory support were more influential in adoption in Bahrain because of a more developed digital ecosystem in which institutional structures facilitate adoption. In both situations, user attitudes mediated the implications of perceptions on behavioral intention, but the interrelationship between intention and actual use was mediated by regulatory support. These results support the magnitude of institutional maturity and cultural preparedness in determining the way AI translates into practice.

The study adds to the theory to expand TAM in its conventional framework to include the governance and ethics issue, demonstrating that the adoption in the legal setting cannot be attributed to the usefulness and ease of use alone. It also contributes to the field of adoption research by showing the identity in the importance of regulatory support as a moderator and illuminating the different mediation by attitudes among countries. In practical terms, the research offers specific recommendations: in Jordan, the adoption strategies can be focused on developing a level of trust, the sense of security, whereas in

Bahrain, the focus should be on the level of maintaining transparency and proving usefulness. The findings highlight the need to set up and uphold effective regulatory systems by policymakers that would authenticate the use of AI in arbitration.

Along with its contributions, the study has weaknesses. This is limited by the two-country focus and the use of cross-sectional survey data to limit generalization and time. The future studies should be extended to other Gulf Cooperation Council (GCC) and Middle East and North Africa (MENA) states, with the use of longitudinal designs, and adding other variables, including digital literacies, organizational culture, and cultural values. This would enhance further knowledge on AI adoption in arbitration among others.

Finally, this research paper has proven that the implementation of AI in arbitration is not a universal process but is instead highly predicated by institutional and cultural aspects. Through the Jordan and Bahrain comparison, it becomes evident that various tracks of digital maturity give way to various adoption tracks. Its results point to the fact that the responsible adoption does not just need technical efficacy; it needs trust, transparency, and supportive regulation. These lessons are important in informing policymakers, practitioners, and technological developers in promoting fair, safe, and transparent arbitration in the world as AI continues to transform the legal systems.

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