The Moderating Role of Artificial Intelligence Tools between Organizational Culture and Innovative Work Behavior

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***Abstract*—This study aims to analyze the interlink of organizational culture with innovative work behavior (IWB) among academic staff in private universities in Erbil, Kurdistan Region of Iraq, and the moderating role of artificial intelligence (AI). This study adopted a quantitative, cross-sectional survey design, and data were collected from 201 academic staff in private universities in Erbil, Kurdistan region of Iraq. A structured questionnaire was used, and responses were analyzed using Statistical Package for the Social Sciences version 27. Descriptive statistics, reliability analysis, correlation, and regression techniques were used, whereas moderation analysis was performed using Hayes' Process Macro. The findings show that creative work practices among university instructors are favorably correlated with organizational culture. In addition, there is a strong link between AI and IWB practices, which might promote academic innovation. Furthermore, the results confirm that AI does moderate the association between IWB and organizational culture, with high levels of AI use strengthening this support.**

***Keywords*—Academic staff, Artificial intelligence, Innovative work behaviour, Organizational culture.**

I. Introduction

Educational institutions are under considerable pressure due to globalization, rapid technological advances, and growing social demands. Universities, which were once characterized as institutions focused on transmitting knowledge, are now expected to function as innovation-driven organizations that contribute to social advancement, economic growth, and knowledge generation (Majidpour et al., 2025; Shareef, 2023). In this context, innovative work behavior (IWB) is understood to be a significant contributor to building the institutional performance and preserving the academic competitiveness of academic staff members (Amoozegar et al., 2025).

Innovation work behavior refers to the generation, promotion, and implementation of new ideas in terms of education, research, and administrative matters (De Jong and Den Hartog, 2010). Such measures induce improvement of the quality of teaching, increase productive output in research, and enable addressing those new problems within learning environments (Massoudi and Zidan, 2025). As well as providing them with the right tools and resources, building creative cultures within academia is also contingent on various organizational and technical processes that shape faculty members' behaviors and attitudes (Liu and Sun, 2025).

One of the most powerful drivers behind employee behavior is organizational culture. A strong, intentional organization culture that exemplifies involvement, consistency, adaptability, and mission clarity greatly affects academics' view of their work (Budur et al., 2024). This kind of culture prompts participation in decisions, enhances collaboration, and gives a common objective, all key to driving inventive conduct in the learning process (Mokadem et al., 2025).

The organizational factors come with a new technology that revolutionizes the academic workplace in using AI tools and technology (Acosta-Enriquez et al., 2025). AI technologies enable faculty by improving information access, increasing task automation, providing decision-making processes support, and helping with better teaching/research (Liu, 2025). As educational institutes create systems that are backed up by AI, it is becoming necessary to understand its effect on learning dynamics and innovation (Wu et al., 2025).

Organizations are increasingly interested in culture and AI, but their integral effect on IWB has not yet been tested

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and needs more investigation empirically in the context of higher education (Zhou et al., 2025). The role of AI in moderating the relationship between organizational culture and innovation has not been widely studied in developing parts of the world like the Kurdistan Region of Iraq. Hence, the objective of this study is to fill this gap by exploring how organizational culture and AI influence IWB of academic staff in private universities in Erbil and systematically analyzing the moderating effect of AI on this association. It is envisaged that the findings will help contribute to theoretical evolution as well as practical insights into how universities can enable innovation via cultural and technological enablers.

II. Literature Review and Hypotheses Development

A. Organizational Culture and IWB

The deliberate creation, promotion, and use of novel concepts, procedures, or practices in professional settings is known as IWB (Zargar et al., 2025). IWB is essential to raising research productivity and competitiveness, as well as teaching effectiveness in higher education. Faculty members are being challenged to adopt more creative strategies as a result of the quick development of technology and the necessity for academia to change (Riza et al., 2025). Understanding the organizational elements influencing creative behavior has therefore become essential (Liu and Sun, 2025).

Organizational culture is the set of energy-driving factors such as shared values, shared understanding, and beliefs that affect employees' behavior; hence, it mostly drives IWB (Yousaf et al., 2024). The Denison model defines four primary elements of operational culture: involvement, consistency, adaptability, and mission (Denison et al., 2006; Denison and Mishra, 1995). A supportive organizational culture creates an environment that encourages creativity, the sharing of information, and experimentation required to drive innovation (Orozco Arias and Anzola Morales, 2023). Several studies recurrently reveal that organizational cultures in both public and private sectors can affect IWB (Orozco Arias and Anzola Morales, 2023; Riza et al., 2025).

The connection between organizational culture and IWB is primarily based on social exchange theory which suggests that positive actions towards an employee will be returned with more favorable behaviors when certain conditions are met in a company (Cropanzano and Mitchell, 2005; Hameli, 2024). When involvement, consistency, adaptability, and mission exist, there is a feeling of support from the organization amongst faculty members. It allows them to act creatively in response to organizational needs (Orozco Arias and Anzola Morales, 2023). Moreover, Schein's Organizational Culture highlights how employees' attitudes and behaviors are influenced by the shared values and norms within an organization, which in turn creates an environment that fosters innovation (Mamo et al., 2025; Munir and Watts, 2025).

The theoretical viewpoint provides a good basis for unravelling how corporate culture fosters IWB (Cavaliere and Mori, 2026). First, Higher levels of Involvement and engagement increase the likelihood that workers will collaborate and exchange ideas (Shareef, 2024). Innovation in teaching and research is encouraged by faculty participation in academic and administrative processes at institutions (Mansaray and Atan, 2025). Second, Consistency demonstrates common standards, collaboration, and integration across the firm (Budur et al., 2024). A stable organizational culture builds trust and reduces uncertainty, making new ideas easier to collaborate upon and execute (Orozco Arias and Anzola Morales, 2023). Consistency in policies and shared values facilitates the adoption and sustainability of innovative practices within academic institutions (Hameli, 2024). Third, adaptability encompasses the flexibility of an organization to adapt to changes in the environment and increase learning capabilities (Budur et al., 2024). This is especially important in terms of innovation, as it encourages experimentation and openness to ideas (Orozco Arias and Anzola Morales, 2023). The previous research has suggested that adaptability is a significant antecedent of IWB, as it allows employees to adapt creatively due to the dynamism in the environment (Mamo et al., 2025). At universities, adaptability helps usher in new technologies and creative teaching methodologies (Alateeg and Alhammadi, 2024). Finally, Mission stands for a clear organizational vision, strategy, and long-term goals (Yousaf et al., 2024). Having an orientation with the institutional mission for faculty members drives them toward innovative activity and thus promotes success in the organization (Orozco Arias and Anzola Morales, 2023). A clear mission guides and motivates employees, thereby improving their commitment to innovating.

Based on the description, the following hypothesis is derived:

> H_1: Academic staff's perceptions of organizational culture dimensions—(H_{1a}) involvement, (H_{1b}) consistency, (H_{1c}) adaptability, and (H_{1d}) mission are positively related to IWB.

B. Artificial Intelligence (AI) and IWB

AI has emerged as a transformative technological force that is reshaping organizational processes, decision-making, and employee roles across various sectors, including higher education (Ruano-Borbalan, 2025). AI stands for AI, which is a simulation of human intelligence in computers and systems to perform tasks that typically require human cognitive functions such as learning, reasoning, data analysis, and decision-making (Secundo et al., 2025). The implementation of AI applications in fright like intelligent tutoring systems, data analytics tool ecosystems, and automated processes, is progressively transforming the structures of teaching and learning. These advanced technologies are anticipated to be systematically integrated into research and administrative functions, thereby contributing to the enhancement of faculty performance and institutional effectiveness within higher education environments (Singh, 2023). This affects professors' work location and practice, and their innovation pursuits (Katsamakas et al., 2024).

Innovative work practices: Universities must deliberately develop, promote, and implement innovative ideas to be

competitive and adaptable in the face of swift societal and technological change (George and Wooden, 2023). Indeed, the adoption of AI technologies has been highlighted as an important driver of innovation, in particular by enhancing employees' ability to process information, derive insights, and experiment with new solutions (Katsamakas et al., 2024). AI reduces mundane workload and frees up faculty members' time for higher-order cognitive activities such as creativity, critical thinking, and problem-solving that lie at the heart of IWB (Zhou et al., 2025).

Theoretically, AI has a link with IWB based on the technology acceptance model (TAM) (Xue et al., 2025) and resource-based view (RBV) (Barney, 2001). Given the basis of TAM, when employees find AI technologies useful and easy to use, they will adopt them, contributing positively to their performance and intuitive work (Tbaishat et al., 2026). On the other side, according to RBV, advanced technologies like AI can be utilized as valuable organizational resources that enhance employees' competencies and drive innovations (Mahade et al., 2025). These views suggest that AI adoption not only enhances efficiency, but also creates space for novel behavior (Massoudi and Zidan, 2025).

Empirical work provides strong support for the view that AI positively influences IWB. Recent findings show that AI-enabled tools can stimulate the creativity of employees because they open access to knowledge, automate mundane tasks, and drive data-informed decisions (Zhou et al., 2025). Similarly, studies carried out in educational settings revealed that tabling the use of AI technology encourages teachers to experiment with new teaching methods, make progress in encouraging creative research activities, and improve problem-solving skills (Hasan et al., 2025). By providing digital platforms that enable communication and idea sharing as a crucial component of innovation, AI accordingly promotes cooperation and knowledge exchange (Arya et al., 2025).

AI also aids in the development of a learning organization. AI technologies improve workers' learning by providing insightful, real-time feedback, predictive analytics, and skill-related insights (Katsamakas et al., 2024). This capacity for learning increases workers' self-assurance and inspires them to engage in creative endeavors (Shwedeh, 2024). AI-backed tools help faculty in higher education analyze student performance, create adaptive learning procedures, and explore interdisciplinary research topics (Mahade et al., 2025). This results in a work strategy that defies traditional thinking.

However, depending on how prepared and competent staff members are, as well as how they feel about technology, the impact of AI on IWB may differ. Therefore, although AI is frequently viewed as a danger when it is poorly deployed and without organizational support, when it is used well, it may foster human-level creativity where, when correctly built, it complements rather than replaces human talent (George and Wooden, 2023). It promotes original thinking, fresh concepts, and alternative scholarly approaches (Rao and Suhasini, 2025). With behavior-normalizing efficiency improvements and play-catalyzing creative qualities that might enable knowledge-pushed innovation, AI is a powerful enabler of IWB, supported by both theoretical reasons and empirical data the following hypothesis is developed.

H_2: AI is significantly and positively related to IWB.

C. AI as a Moderator Variable

The deliberate creation, promotion, and implementation of novel concepts, procedures, or working practices by employees is known as IWB (AlEssa and Durugbo, 2022). IWB is essential for improving teaching quality, increasing research productivity, and ensuring institutional adaptation in a rapidly evolving technology context in higher education institutions (Adhikari and Kaur, 2026). Several antecedents of IWB have been suggested in the literature, and organizational culture as a shared system of values, beliefs, and norms is one of the most widely recognized antecedents (Atatsi et al., 2022). A climate of engagement, commitment, flexibility, and purpose can create a supportive environment that facilitates innovative practices among faculty through networking opportunities and knowledge sharing (Zamiri and Esmaeili, 2024). Nonetheless, the strength of this link is likely to vary depending on context.

Technological infrastructure, especially intelligent technologies such as AI can shape how elements of organizational culture are converted into innovative outcomes (Hoxha et al., 2024). AI is defined as high levels of advanced systems that mimic human capabilities – learning, predicting future events, automating processes, and supporting decision making (Sarker, 2022). Within education, AI tools are being leveraged for data analysis, research support, custom-tailored instruction, personalized learning experiences, and administrative automation (Wangdi, 2024). Such capabilities can also increase employees' access to information, lighten the load, and facilitate more efficient decision-making, creating a working environment that is better suited for innovation (Lin et al., 2023).

Theoretically, this moderating effect of AI can be explained by the RBV. According to RBV (Barney, 2001), outcomes of an organization depend on how valuable resources interact with each other and also with culture, technology, etc. The presence of AI at a high level is critical next to a solid and well-defined organizational culture (Yunusa, 2025). Likewise, socio-technical systems theory rests upon the assertion that organizational performance is characterized by an interplay between social systems (culture, people, structure) and technical systems (technology, tools) (Abbas and Katina, 2023; Sony and Naik, 2020). In line with that, it is precisely AI that makes more of a supportive culture by allowing employees to better interpret cultural values as innovative behaviors in action.

The hypothesis is supported by empirical studies that confirm the positive role of digital technologies in moderating the effect of organizational context on innovation outcomes. Studies show that powerful digital infrastructure allows organizations to draw on their cultural elements, emerging employee creativity, and innovation (Amankona et al., 2025). More so than ever before, AI enables knowledge access to

a plethora of underrepresented demographics, enhances time and resource efficiency in the form of communications and exchanges, and provides experimentation support through predictive or diagnostic analysis, as well as intelligent systems (Binsaeed et al., 2023). These capabilities are magnifying the impacts of an innovative organizational culture by allowing faculty to turn concepts into practical solutions faster (Massoudi et al., 2024).

In the academic world, AI integration is pushing opportunities for collaboration and learning between faculty members even further. AI-fueled platforms can aid research collaboration, facilitate automated academic tasks, and offer real-time feedback on teaching efficacy (Ojika et al., 2023). In the presence of such technical support, more powerful effects of adaptive and participative culture since faculty have significantly increased capacity to experiment with innovative ideas, less subject to limitations associated with administrative or cognitive overload (Katsamakas et al., 2024).

On the other hand, in a low AI adoption setup, where employees experience more organizational constraints and fewer technological enabling factors, as compared to a high AI adopting organization, the role of such culture may be weaker (Horani et al., 2025). This indicates that AI is not a direct replacement for organizational culture, but rather an enabler of more effective cultural alignment with practice by facilitating the tools and infrastructure needed to leverage cultural values into innovative action (Yousaf et al., 2024).

AI enhances the positive relationship between organizational culture and IWB, as argued by theoretical underpinning and empirical evidence above, since it allows organizational resources to be better exposed, employee creativity to be tackled, and new ideas to be implemented more efficiently. Accordingly, the following hypothesis is proposed.

H_3: AI moderates the relationship between organizational culture and IWB, such that the positive effect of organizational culture on IWB is stronger when AI use is higher.

The relationships between organizational culture, AI, and IWB for academic staff in Erbil's private universities were illustrated in a conceptual model (Fig. 1). The model rests on the assumption that organizational and technological factors are key elements in determining employees' innovative behavior in higher education institutions.

III. Methodology

A. Research Design

The quantitative research design herein investigated the relationships between organizational culture, AI, and IWB, in addition to the moderating effects of AI. Using a cross-sectional, paper-based survey method, data were collected from academic staff at private universities in Erbil, Kurdistan Region of Iraq. This approach allowed for the testing of hypothesized relationships and the analysis of interactions between variables at a single point in time.

B. Population and Sample

The population consisted of all academic staff employed at private universities in Erbil, with a total population of 619 academic staff members across all universities. The institutions included Cihan University - Erbil, Lebanese French University, International University of Erbil, Tishk International University, Knowledge University, Bayan University, Catholic University in Erbil, and Qala University College. A total of 250 questionnaires were distributed to academic staff members at these universities, of which 201 valid responses were returned, resulting in a usable response rate of 80.4%. The respondents included academic personnel, instructors, and lecturers. The characteristics of the sample are presented in Table I.

C. Sampling Technique and Data Collection Method

Simple random sampling was utilized in this study; all academic staff members of the chosen private institutions had an equal chance of being included in the sample. This method increases the results' generalizability while reducing selection bias. A standardized questionnaire that was uploaded to academic staff at the chosen universities was used to collect this data. The questionnaire was created using already validated scales in the literature to guarantee content validity and reliability. Participants were informed

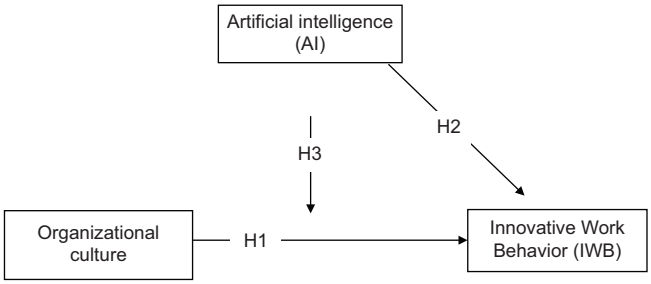

Fig. 1: Conceptual framework.

TABLE I
Distribution of Socio-Demographic Characteristics of the Study Participants

Demographic variable	Category	Frequency	Percentage
Gender	Male	105	52.2
	Female	96	47.8
Marital status	Married	134	66.7
	Single	67	33.3
Age	30–39 years	94	46.8
	40–49 years	52	25.9
	29 years and under	30	14.9
	50+years	25	12.4
Educational level	Master degree	123	61.2
	PhD degree	78	38.8
Academic title	Assistant lecturer	91	45.3
	Lecturer	64	31.8
	Assistant professor	37	18.4
	Professor	9	4.5
Working period	2 years or less	45	22.4
	3–5 years	74	36.8
	6–10 years	51	25.4
	11+years	31	15.4

of the study's objectives and given the assurance that their responses would remain private and anonymous.

D. Data Analysis Technique

Statistical Package for the Social Sciences software (Version 27) was used to analyze the collected data. Demographic characteristics and variable distributions were presented using descriptive statistics. The software was used to find out the relationship between dependent and independent variables. In addition, moderation analysis was performed using the process macro (Model 1) based on the bootstrapping method (Hayes, 2015) to examine whether AI moderates the relationship between organizational culture and IWB. This allows interaction effects of independent and moderating variables to be studied within a regression framework.

E. Instrumentation and Measures

A structured self-administered questionnaire was used for data collection. All constructs were measured with previously validated scales adapted from the extant literature to ensure reliability and validity. The constructs of the study questionnaire included organizational culture, AI, and IWB. The response to all items was rated on a five-point Likert scale (1 = strongly disagree; 5 = strongly agree). Table II presents the measurement construct and sources of the study variables.

IV. Results and Data Analysis

A. Reliability Analysis

To ensure internal consistency, Cronbach's Alpha was calculated for all constructs (organizational culture, AI, and IWB). A threshold of 0.70 or above indicates acceptable reliability. Table III shows the reliability result.

B. Correlation Analysis

Pearson correlation analysis was conducted to examine the relationships among the study variables. The Pearson correlation matrix for the bivariate associations among the constructs of this study, organizational culture, AI, and IWB is presented in Table IV. The results show that organizational culture has a strong correlation with IWB (r = 0.778, $P < 0.01$). This finding indicates a strong, positive, and statistically significant relationship; that is, academic staff who perceive their institution as having a stronger organizational culture are likely to demonstrate higher levels of IWB. The correlation between AI and IWB is also strong and statistically significant (r = 0.704, $P < 0.01$); hence, greater use of and engagement with AI among academic staff is associated with increased IWB. Finally, the correlation between organizational culture and AI is statistically significant (r = 0.648, $P < 0.01$), suggesting that institutions with stronger organizational cultures are also associated with higher levels of AI adoption among their academic staff.

C. Analysis of Model Fit Indices

Table V shows the model summary for the moderation analysis estimating the joint effect of Organizational culture and AI, as well as their interaction term, on IWB among the 201 academic staff participants, which was conducted using PROCESS macro model (Hayes, 2015). The overall model fit the data well, indicated by a multiple correlation coefficient R = 0.811, which suggests a very strong linear relationship between this set of predictors and the outcome variable. The coefficient of determination ($R^2 = 0.657$) shows that about 83% of the total variance in IWB is explained by the model, considered large by conventional standards, hence substantially reflecting the combined explanatory power from organizational culture, AI, and their interaction in predicting innovative behavior among academic staff. Mean square error (MSE = 48.858) reflects the average squared deviation of observed values from model-predicted values, with relatively low unexplained residual variance given the scale of the outcome variable. The overall model was statistically significant at F (3,197) = 321.347, $P < 0.001$, proving that inclusion of these three predictors, organizational culture, AI, together with the interaction term, collectively explains a significant non-trivial proportion beyond what would be expected by chance in IWB variance. This strongly supports subsequent interpretation for individual regression

TABLE II
Measurement Construct and Sources

Construct	Items	Source
Organizational culture	24 items	(Denison et al., 2006; Denison and Mishra, 1995)
Artificial intelligence	6 items	(Abdelaal and Al Sawi, 2024)
Innovative work behavior	22 items	(De Jong and Den Hartog, 2010)

TABLE III
Reliability Results

Variable	Cronbach's Alpha	Items	Interpretation
Organizational culture	0.909	24	Reliable
Artificial intelligence	0.937	6	Reliable
Innovative work behavior	0.872	22	Reliable

TABLE IV
Pearson Correlation Matrix of Variables

Variables	Organizational culture	Artificial intelligence	Innovative work behavior
Organizational culture			
Pearson correlation	1		
Sig. (2-tailed)			
Artificial intelligence			
Pearson correlation	0.648**	1	
Sig. (2-tailed)	0.000		
Innovative work behavior			
Pearson correlation	0.778**	0.704**	1
Sig. (2-tailed)	0.000	0.000	

**Correlation is significant at the 0.01 level (2-tailed)

TABLE V
Model Fit Indices

Model	R	R^2	MSE	F	df1/df2	*P*-value
1	0.811	0.657	48.8578	321.3469	3/197	<0.001

coefficients and the moderation effect while confirming that this study's context supports such theoretical meaning with good empirical backing.

D. Hypotheses Testing (Direct Effects)

Regression analysis was conducted to test the direct effect of organizational culture on IWB. Table VI presents the regression results testing the direct effects of the four organizational culture sub-dimensions: involvement, consistency, adaptability, and mission on IWB. This relates to hypotheses H_{1a} through H_{1d} based on data collected from 201 academic staff participants. All four hypotheses were supported, as each sub-dimension had a positive and statistically significant association with IWB at $P < 0.001$. Collectively, these findings affirm that these cultural dimensions of organizational life are meaningful and robust predictors of innovative behavior within the academic workplace. The confidence intervals (CIs) for all four coefficients were entirely positive and did not include zero, which further supports the reliability and directional consistency of these effects.

Among the four sub-dimensions, involvement demonstrated a positive effect on IWB (B = 2.685, t = 17.659, $P < 0.001$). This finding confirms that staff participation, empowerment, and collective ownership within the institution foster innovative behavior. Consistency (B = 2.710, t = 19.182, $P < 0.001$, 95% CI [2.431, 2.989]) indicates that a culture characterized by shared values, ethical clarity, coordinated agreement, and alignment of goals across all organizational levels strongly supports IWB by making staff members feel more confident in engaging in innovative activities. Adaptability is also a significant predictor of IWB (B = 3.022, t = 23.709, $P < 0.001$, 95% CI [2.770, 3.273]). The mission dimension was also significant (B = 2.913, t = 18.197, $P < 0.001$, 95% CI [2.597, 3.229]), indicating that a clear and inspiring institutional mission has strong unit-level effects on IWB. Overall, the results summarized in Table VI indicate that all four sub-dimensions of organizational culture are significant positive predictors of IWB.

E. Moderation Analysis

Table VII presents the regression coefficients for the moderation model examining the effects of organizational culture and AI on IWB among academic staff. The findings indicate that organizational culture has a significant positive effect on IWB (B = 0.956, t = 8.769, $P < 0.001$). This suggests that improvements in organizational culture are associated with higher levels of IWB among academic staff. In other words, a supportive organizational culture encourages employees to generate, promote, and implement new ideas within the university environment.

The results further reveal that AI also has a significant positive effect on IWB (B = 2.531, t = 5.737, $P < 0.001$). This implies that greater utilization of AI technologies contributes positively to enhancing IWB. Academic staff who effectively use AI tools and technologies are more likely to engage in creative and innovative activities in their work.

Most importantly, the interaction term between organizational culture and AI is statistically significant (B = 0.199, t = 3.594, $P = 0.0004$), confirming the moderating role of AI in the relationship between organizational culture and IWB. This means that AI strengthens the positive relationship between organizational culture and IWB. In practical terms, the influence of organizational culture on IWB becomes stronger when the level of AI usage is higher. Therefore, universities with a supportive organizational culture and greater integration of AI technologies are more likely to foster innovative behavior among academic staff.

The simple slopes analysis indicates that organizational culture has a positive and statistically significant effect on IWB at all levels of AI as shown in Fig. 2. Specifically, at low levels of AI (16th percentile), the relationship between organizational culture and IWB is positive and significant ($\beta = 0.4203$, $P < 0.001$), suggesting that a supportive organizational culture enhances employees' innovative behavior even when AI support is limited. At the medium level of AI (50th percentile), the effect becomes stronger ($\beta = 0.4969$, $P < 0.001$), indicating that moderate AI usage further enhances the positive influence of organizational culture on innovation-related behaviors. The strongest effect is observed at high levels of AI (84th percentile), where organizational culture has the greatest positive impact on IWB ($\beta = 0.6500$, $P < 0.001$) as indicated in Table VIII. The increasing slope values across low, medium, and high AI levels demonstrate that AI positively moderates the

TABLE VI
REGRESSION RESULTS FOR THE EFFECTS OF ORGANIZATIONAL CULTURE DIMENSIONS ON INNOVATIVE WORK BEHAVIOR (H_1A–H_1D)

Statement	B (Unstandardized coefficient)	t	*P*-value	95% Confidence Interval	Result
H_{1a}	2.685	17.659	<0.001	(2.385, 2.985)	Supported
H_{1b}	2.710	19.182	<0.001	(2.431, 2.989)	Supported
H_{1c}	3.022	23.709	<0.001	(2.770, 3.273)	Supported
H_{1d}	2.913	18.197	<0.001	(2.597, 3.229)	Supported

TABLE VII
REGRESSION COEFFICIENTS FOR THE MODERATION MODEL PREDICTING IWB

Variable	B (Unstandardized coefficient)	t	*P*-value	Significance
Organizational Culture	0.956	8.769	<0.001	Significant positive effect on innovative work behavior
Artificial Intelligence	2.531	5.737	<0.001	Significant positive effect on innovative work behavior
Organizational culture×artificial intelligence	0.199	3.594	0.0004	Significant - moderation confirmed

TABLE VIII
Conditional Effects of Organizational Culture on Innovative Work Behavior at Different Levels of Artificial Intelligence

AI level (W)	AI score	Effect (β)	Standard error	t	*P*-value	95% confidence interval
Low (16th)	28.0000	0.4203	0.0641	6.5594	<0.001	(0.294, 0.547)
Medium (50th)	24.0000	0.4969	0.0499	9.9492	<0.001	(0.398, 0.595)
High (84th)	16.0000	0.6500	0.0447	14.5529	<0.001	(0.562, 0.738)

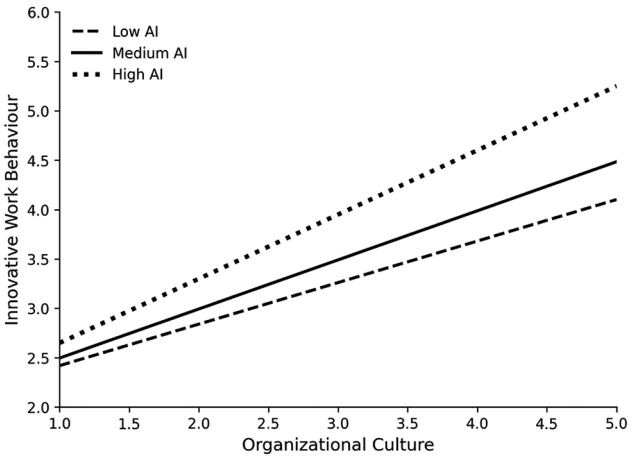

Fig. 2: Simple slopes analysis.

relationship between organizational culture and IWB. In other words, the presence and use of AI strengthen the ability of organizational culture to promote innovative behavior among academic employees.

V. Discussion

The study results revealed a substantial positive correlation between organizational culture and IWB among university teachers. When the organizational culture fosters that kind of involvement, consistency, adaptability, and a clear mission, academic staff will act innovatively, they will absorb new idea concepts, upgrade their teaching mostly, and carry out much better research activities.

This affirmation of the accountability dimension increases engagement among faculty in decision-making processes and, consequently, generates psychological ownership that encourages and promotes innovation. Consistency allows for further common values and coordination, breeding fertile ground for systematic innovation. Adaptability can lead you to be more flexible and responsive to change, opening the door for exploration and innovation. Finally, a clear mission informs and aligns the individual with institutional forces, ultimately leading to purposeful innovations.

These results are consistent with previous research that has emphasized the role of organizational culture in performance and innovation. This supportive and participative culture has been found by researchers to improve employees' creativity and innovation behavior very significantly (Budur et al., 2024). Similarly, flexibility is touted as another prominent enabler of innovation in the organizational landscape that changes rapidly (Mamo et al., 2025). The findings are similar to research at the higher education level that suggests faculty members are more creative when their institutions foster collaboration, shared values, and (strategic) clarity (Budur et al., 2024).

In addition, results imply a significant predictive relationship of AI with IWB among university teaching faculties. This means that the use of AI tools in the study allows educators to replace themselves in innovation, teaching, research, and administrative tasks.

AI technologies provide faculty with improved access to information, automation of routine tasks, and more accurate data-driven decisions. What it does do is free up academic staff to think more imaginatively and to create added value. AI usage increases work efficiency in research purposes, helps the way of teaching, and furthermore creates new avenues for knowledge generation that ultimately lead to improved innovative task behaviors.

The findings align with previous research indicating that AI can reshape academic staff IWB. Mounting evidence shows that AI adoption improves efficiency, helps people tap creativity, and empowers workers to develop novel solutions (Secundo et al., 2025). AI technology has been beneficial in higher education for enhancing the quality of teaching and research productivity as well as academic innovation, which reinforces the results of this study (Zhou et al., 2025).

The results of the moderation analysis show that AI moderates the relationship between organizational culture and IWBs. This indicates that the strength of the relationship between organizational culture and innovation depends on the level of AI integration within the university environment. Specifically, the positive effect of organizational culture on IWBs is stronger when AI usage is high. This indicates that AI serves as an enabling mechanism, augmenting the role of cultural determinants in fostering innovation. Conversely, under low AI use, there is a weak relationship between organizational culture and innovation, suggesting that technological support plays a prominent role in the context of translating cultural values into innovative outputs.

Such findings are aligned with growing research emphasizing the co-dependent nature of organizational and digital factors (Wangdi, 2024). Earlier studies propose that AI amplifies organizational capabilities through enabling knowledge sharing within the organization, accelerating decision-making processes, and assisting with creativity (Singh, 2023). In particular, studies found that digital transformation enhances the influence of organizational culture on innovation by creating tools and systems to better put employees' skills into practice (Shokrollahi, 2025; Yunusa, 2025).

VI. Conclusion and Implications

A. Conclusion

The present study examined the associations between organizational culture, AI, and IWB in academic staff of private universities in Erbil, Kurdistan Region of Iraq, as well as the moderating role of AI. The results showed that organizational culture has a significant positive influence on IWBs, implying that the defined supportive cultural dimensions (i.e., involvement, consistency, adaptability, and clear mission) are important to enhance academic staff innovation. Moreover, it was revealed that AI positively contributes to IWBs as a technological enabler, enhancing academic performance and creativity in periodic analyses.

Moreover, the findings indicated that AI moderates the impact of organizational culture on IWB positively under high conditions of AI usage. Hence, advanced technologies can contribute to the effectiveness of organizational cultural factors in higher education institutions in terms of being more innovative.

B. Theoretical Implications

This study makes several contributions to the literature. To understand the creative work behaviors in higher education, it first presents a coherent framework for studying AI and organizational culture. This combination enhances existing research, which has typically studied these constructs in isolation.

Second, the study contributes to innovation theory by showing that technological factors like AI not only affect IWB directly but also amplify organizational culture's effect. It emphasizes the need of valuating innovation within both organizational and technological contexts in academia.

Finally, the study adds empirical evidence to existing theoretical models in a less-explored context by investigating data from private universities in a developing region.

C. Practical Implications

This study has two main implications for university administrators and policymakers. The first involved higher education organizations, which are institutions focused on working well with employees who become engaged in organizational efforts and policies that have clear consistency, promoting adaptability within these institutions while empowering staff across campuses, through rapid increases in communicating institutional mission and goals. These types of initiatives can greatly increase faculty participation in innovative endeavors.

Second, universities should devote resources to AI technologies and ensure they are successfully integrated into their teaching, research, and administrative processes. AI tools may reduce administrative burdens, increase productivity, and provide academic staff members with the chance to foster original and creative thinking.

Third, administrators at universities ought to recognize the mutually beneficial link between AI and organizational culture. Sophisticated technical systems in conjunction with a favorable organizational culture can provide an atmosphere that encourages academic personnel to work as creatively as possible.

D. Limitations and Future Research

Despite its value, this study has many drawbacks. Because we employed a cross-sectional study methodology, the first constraint is the inability to draw conclusions about the causal relationships between variables. Changes over time might be investigated using longitudinal designs with many follow-up evaluations. Second, self-reported questionnaires, which are prone to response bias, were employed in this study. To improve validity, future research may use a variety of data sources. Third, we cannot presume that the results of this study, which focused on private institutions in Erbil, would apply to other areas or public universities. Larger sample sizes and comparisons with different educational environments and nations may be included in future research. Finally, to gain a better understanding of the processes influencing creative work behavior in higher education institutions, future research may look at other moderating or intervening factors such as leadership styles, digital readiness, and knowledge sharing.

References

Abbas, H., & Katina, G. (2023). Socio-technical theory. *Trist and Bamforth*, 1(2), 1-16.

Abdelaal, N.M., & Al Sawi, I. (2024). Perceptions, challenges, and prospects: University professors' use of artificial intelligence in education. *Australian Journal of Applied Linguistics*, 7(1), 1309.

Acosta-Enriquez, B.G., Villena Zapata, L.I., Huamaní Jordan, O., López Roca, C., Cabrera Cipirán, B.M., Saavedra Villacrez, W., & Arbulu Perez Vargas, C.G. (2025). Acceptance of artificial intelligence as a teaching strategy among university professors: The role of habit, hedonic motivation, and competence for technology integration. *Human Behavior and Emerging Technologies*, 2025(1), 5933157.

Adhikari, H., & Kaur, K. (2026). Quality management practices and their influence on academics' innovative work behavior and performance in Nepalese higher education institutions. *Journal of Advanced Academic Research*, 13(1), 88-94.

Alateeg, S., & Alhammadi, A. (2024). The impact of organizational culture on organizational innovation with mediation role of strategic leadership in Saudi Arabia. *Journal of Statistics Applications and Probability*, 13(2), 843-858.

AlEssa, H.S., & Durugbo, C.M. (2022). Systematic review of innovative work behavior concepts and contributions. *Management Review Quarterly*, 72(4), 1171-1208.

Amankona, D., Yi, K., Tackie, E.A., Tweneboa Kodua, L., & Odai, L.A. (2025). Responsible digital innovation and innovation performance in Ghanaâ€™s high-tech industry: The mediating roles of digital organizational culture and strategy, and the moderating role of digital literacy. *Sage Open*, 15(2), 1-20. https://doi.org/10.1177/21582440251341256.

Amoozegar, A., Esohwode, O., Falahat, M., Krishnasamy, H.N., Anjum, T., Raju, V., & Hasan, M. A. (2025). High performance work system and innovative work behaviour: A moderated mediation analysis of knowledge sharing and employee creativity in Nigerian higher education institutions. *PLoS One*, 20(12), e0338031.

Arya, V., Saraf, A., Chichkanov, N., Papa, A., & Romano, M. (2025). AI-enhanced competency transfer hubs: A conceptual framework for university-industry engagement and knowledge sharing. *The Journal of Technology Transfer*, 51, 682-712.

Atatsi, E.A., Curşeu, P.L., Stoffers, J., & Kil, A. (2022). Learn in order to innovate: An exploration of individual and team learning as antecedents of innovative work behaviours in Ghanaian technical universities. *Sustainability*, 14(7), 4012.

Barney, J.B. (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of Management*, 27(6), 643-650.

Binsaeed, R.H., Yousaf, Z., Grigorescu, A., Trandafir, R.A., & Nassani, A.A. (2023). Knowledge sharing and the moderating role of digital innovation on employees innovative work behavior. *Sustainability*, 15(14), 10788.

Budur, T., Demirer, H., & Rashid, C.A. (2024). The effects of knowledge sharing on innovative behaviours of academicians; mediating effect of innovative organization culture and quality of work life. *Journal of Applied Research in Higher Education*, 16(2), 405-426.

Cavaliere, V., & Mori, M. (2026). Individual factors and innovative work behaviours: The influence of organisational culture. *Creativity and Innovation Management*, 35(1), 110-124.

Cropanzano, R., & Mitchell, M.S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, 31(6), 874-900.

De Jong, J., & Den Hartog, D. (2010). Measuring innovative work behaviour. *Creativity and Innovation Management*, 19(1), 23-36.

Denison, D.R., & Mishra, A.K. (1995). Toward a theory of organizational culture and effectiveness. *Organization Science*, 6(2), 204-223.

Denison, D.R., Janovics, J., Young, J., & Cho, H.J. (2006). Diagnosing organizational cultures: Validating a model and method. *Documento de Trabajo. Denison Consulting Group*, 1(1), 1-39.

George, B., & Wooden, O. (2023). Managing the strategic transformation of higher education through artificial intelligence. *Administrative Sciences*, 13(9), 196.

Hameli, K. (2024). Foundations of organizational culture: A comprehensive review. *Journal of Balkan Economies and Management*, 1(1), 53-66.

Hasan, S., Nasreen, S., & Rasul, S.S.U. (2025). Leveraging artificial intelligence (ai) in higher education: Fostering soft skills communication, collaboration, creativity and critical thinking among university students. *Insights Journal of Life and Social Sciences*, 3(4), 1-7.

Hayes, A.F. (2015). An index and test of linear moderated mediation. *Multivariate Behavioral Research*, 50(1), 1-22.

Horani, O.M., Al-Adwan, A.S., Yaseen, H., Hmoud, H., Al-Rahmi, W.M., & Alkhalifah, A. (2025). The critical determinants impacting artificial intelligence adoption at the organizational level. *Information Development*, 41(3), 1055-1079.

Hoxha, G., Simeli, I., Theocharis, D., Vasileiou, A., & Tsekouropoulos, G. (2024). Sustainable healthcare quality and job satisfaction through organizational culture: Approaches and outcomes. *Sustainability*, 16(9), 3603.

Katsamakas, E., Pavlov, O.V, & Saklad, R. (2024). Artificial intelligence and the transformation of higher education institutions: A systems approach. *Sustainability*, 16(14), 6118.

Lin, C.C., Huang, A.Y.Q., & Lu, O.H.T. (2023). Artificial intelligence in intelligent tutoring systems toward sustainable education: A systematic review. *Smart Learning Environments*, 10(1), 41.

Liu, N. (2025). Exploring the factors influencing the adoption of artificial intelligence technology by university teachers: The mediating role of confidence and AI readiness. *BMC Psychology*, 13(1), 311.

Liu, Q., & Sun, Y. (2025). The impact of collaborative atmosphere on innovative work behavior of college teachers, North China. *Frontiers in Psychology*, 15, 1497503.

Mahade, A., Elmahi, A., Alomari, K.M., & Abdalla, A.A. (2025). Leveraging AI-driven insights to enhance sustainable human resource management performance: Moderated mediation model: Evidence from UAE higher education. *Discover Sustainability*, 6(1), 267.

Majidpour, M., Hajiakbari, H., & Roshani, S. (2025). Next generation universities in the context of the knowledge economy: Conceptual and practical implications. *Journal of the Knowledge Economy*, 17, 1071-1093.

Mamo, T., Regassa, T., & Tafesse, M. (2025). Transformational leadership and employee innovative behavior in ethiopian public research universities: Mediating role of organizational culture. *F1000Research*, 14, 1177.

Mansaray, I., & Atan, T. (2025). exploring corporate social responsibility: The role of transformational leadership, innovative work behavior, and organizational culture in Public Universities of Sierra Leone. *Sustainability*, 17(17), 7653.

Massoudi, A., & Zaidan, M.N. (2025). Factors influencing IOT acceptance among university students in Iraq: An application of the extended UTAUT model. *Revista ENIAC Pesquisa,* 14(2), 337-364.

Massoudi, A., Zaidan, M.N., & Qasim Agha, A. (2024). The Adoption of Technology Acceptance Model in E-commerce with Artificial Intelligence as a Mediator. *GECONTEC: Revista Internacional De Gestión Del Conocimiento Y La Tecnología,* 12(2), 20-36.

Mokadem, M.E.A., Arshad, D., & Saoula, O. (2025). Organizational culture and its impact on effectiveness in Algerian higher education institutions. *Multidisciplinary Reviews*, 8(4), 129.

Munir, T., & Watts, S. (2025). Power of social media influencers on brand awareness, value, and consumer purchases. *Spanish Journal of Marketing-ESIC*, 30, 258-277.

Ojika, F.U., Owobu, W.O., Abieba, O.A., Esan, O.J., Ubamadu, B.C., & Daraojimba, A.I. (2023). Transforming cloud computing education: Leveraging AI and data science for enhanced access and collaboration in academic environments. *Journal of Frontiers in Multidisciplinary Research*, 4(1), 138-156.

Orozco Arias, J.I., & Anzola Morales, O.L. (2023). Organizational culture for innovation: A case study involving an university faculty. *Journal of the Knowledge Economy*, 14(4), 4675-4706.

Rao, G.T., & Suhasini, N. (2025). Integrating artificial intelligence in higher education to enhance teaching and learning. *Computer Applications in Engineering Education*, 33(6), e70085.

Riza, M.F., Hutahayan, B., & Chong, H.Y. (2025). Fostering high-performing organizations in higher education: The effect of participative leadership, organizational culture, and innovation on organizational performance and commitment. *Cogent Education*, 12(1), 2448884.

Ruano-Borbalan, J.C. (2025). The transformative impact of artificial intelligence on higher education: A critical reflection on current trends and futures directions. *International Journal of Chinese Education*, 14(1), 1-16. https://doi.org/10.1177/2212585x251319364

Sarker, I.H. (2022). AI-based modeling: Techniques, applications and research issues towards automation, intelligent and smart systems. *SN Computer Science*, 3(2), 158.

Secundo, G., Spilotro, C., Gast, J., & Corvello, V. (2025). The transformative power of artificial intelligence within innovation ecosystems: A review and a conceptual framework. *Review of Managerial Science*, 19(9), 2697-2728.

Shareef, R.A. (2023). Employee perception of ethical corporate social responsibility on organizational performance: The role of intellectual capital, and employees' innovative work behavior. *Cihan University Erbil Journal of Humanities and Social Sciences*, 7(1), 98-106.

Shareef, R.A. (2024). Organizational culture's involvement dimension and academic staff task performance. *Cihan University-Erbil Journal of Humanities and Social Sciences*, 8(1), 51-58.

Shokrollahi, M. (2025). *Studying the Role of Organizational Culture and Artificial Intelligence Integration in Business Performance*. Available from: https://www.ssrn5361971 [Last accessed on 2026 Jan 12].

Shwedeh, F. (2024). The integration of artificial intelligence (AI) into decision support systems within higher education institutions. *Nanotechnology Perceptions*, 20(5), 331-357.

Singh, R.J. (2023). Transforming higher education: The power of artificial intelligence. *International Journal of Multidisciplinary Research in Arts, Science and Technology*, 1(3), 13-18.

Sony, M., & Naik, S. (2020). Industry 4.0 integration with socio-technical systems theory: A systematic review and proposed theoretical model. *Technology in Society*, 61, 101248.

Tbaishat, D., Al Fandi, O., Hamad, F., Bukhari, S.M.S., & Al Muhaissen, S. (2026). Modeling generative AI adoption in higher education: An integrated TAM-TPB-SDT framework with SEM validation. *Computers and Education: Artificial Intelligence*, 10, 100541.

Wangdi, P. (2024). Integrating artificial intelligence in education: Trends and opportunities. *International Journal of Research in STEM Education*, 6(2), 50-60.

Wu, F., Dang, Y., & Li, M. (2025). A systematic review of responses, attitudes, and utilization behaviors on generative AI for teaching and learning in higher education. *Behavioral Sciences (Basel)*, 15(4), 467.

Xue, L., Mahat, J., Ghazali, N., & Shi, X. (2025). Technology acceptance model (TAM) in artificial intelligence in higher education (AIHEd): A systematic literature review. *Journal of Institutional Research South East Asia*, 23(1), 355-375.

Yousaf, Z., Javed, A., & Badshah, W. (2024). Unlocking the power of minds: Understanding the interaction of organizational culture, innovative work behavior, and emotional intelligence for improved employee performance. *Journal of the Knowledge Economy*, 15(4), 17390-17406.

Yunusa, E. (2025). Creating an artificial intelligence-ready organizational culture: Harmonizing human existence with AI strategic decision-making. *International Journal of Business Sustainability*, 1(1), 67-83.

Zaidan, M., & Massoui, A.H. (2025). The impact of technological and economic factors on cybersecurity management and MSME performance. *Internext,* 20(3), e847.

Zamiri, M., & Esmaeili, A. (2024). Methods and technologies for supporting knowledge sharing within learning communities: A systematic literature review. *Administrative Sciences*, 14(1), 17.

Zargar, P., Daouk, A., & Chahine, S. (2025). Driving innovative work behavior among university teachers through work engagement and perceived organizational support. *Administrative Sciences*, 15(7), 246.

Zhou, Y., Thurasamy, R., Yusof, R., Zhang, P., Li, X., & Ling, S. (2025). Factors influencing innovative work behavior among teachers in the higher education sectors in China: The role of work engagement as a mediator and artificial intelligence as a moderator. *Acta Psychologica (Amst)*, 258, 105232.