

## **AI DRIVEN TRANSFORMATION AMONG NURSING COMMUNITY: EFFECT ON ORGANISATIONAL CULTURE AND PROFESSIONAL IDENTITY**

**PRASAD.P<sup>1</sup>, Dr. G. PASUPATHI<sup>2</sup>**

<sup>1</sup>Research Scholar in Commerce, PG and Research Department of Commerce, Jamal Mohamed College  
(Autonomous) (Affiliated to Bharathidasan University), Tiruchirappalli. Tamilnadu-620 020

<sup>2</sup>Assistant Professor and Research Guide  
PG and Research Department of Commerce  
Jamal Mohamed College (Autonomous)  
(Affiliated to Bharathidasan University)  
Tiruchirappalli. Tamilnadu-620 020

ponattilprasad@gmail.com<sup>1</sup>

### **Abstract**

The nursing profession is moving as an outcome of artificial intelligence in the health care sector, which has an impact on professional identity and organizational culture. This study examines how nursing roles, interprofessional relationships, and institutional norms are being redesigned by AI technologies, such as automation tools and decision-support systems. AI creates issues with trust, ethics, and role ambiguity even while it also brings chances to improve competency and patient outcomes. Nurses need to get used to taking on tasks that combine traditional nursing ideals with technology proficiency. The study critically examines the dual effect on the structure and culture of AI in healthcare organizations, as well as on nurses' self-perception and autonomy. It highlights the necessity of inclusive training, ethical frameworks, and leadership techniques to guarantee AI upholds rather than compromises the fundamental principles of nursing practice.

**Key words:** Artificial intelligence, Professional identity, Organisational culture, Ethical Climate, Employee autonomy.

### **Introduction**

Due to the integration (AI) in the profession of health care, the management, distribution and knowledge are hastily changing. The technological transition has made a remarkable change in the professional organisations especially in nursing profession. By the implementation of health-related AI care system, it has made a huge change in clinical work flows as well as in diagnostic, patient monitoring, decision support and administrative duties. These developments raise important issues concerning the ideals that guide nursing practice and how technology redefines professional parameters.

The fundamental components of organisational culture in the health care industries are, established hierarchies, procedures, and interpersonal interactions. The advent of AI has disrupted these conventions, which may alter the role of human judgment, decision-making authority, and communication patterns. Nurses who often act as a primary liaison between health care system and patients, necessitates not just for technical proficiency but also for cultural and emotional transformation. The implementation of AI can impact nursing teams' sense of purpose, teamwork, and morale to a great extent.

The impact of AI on professional identity among nurses is equally crucial. Automation and algorithm-driven procedures may threaten the professional identity of nurses, which is traditionally characterized by virtues like empathy, clinical intuition, and direct patient

care. Some nurses may discover new opportunities for leadership and specialization in tech-integrated care while some others may feel their roles are being diminished as computers start to share tasks that were previously assigned to human care-givers. Understanding how AI redesigns identification of nurses is critical in ensuring that nurses remain valued, accepted, and vital to patient-centred healthcare.

Finding out how AI impacts organizational culture and professional identity in the nursing community is the aim of the paper. The study looks at current trends, theoretical frameworks, and real-world experiences to illustrate the paybacks and drawbacks of AI acceptance in the nursing community. It does this by promoting a fair and morally sound strategy that upholds nursing's fundamental principles and welcomes the possibilities of technological advancement to enhance care delivery.

### **Review of Literature**

Incorporating Artificial Intelligence (AI) in professional settings has brought considerable changes in individuals' perceptions and in formulating their professional identities. AI technologies are changing the capabilities and duties of professionals across a range of industries. (Susskind & Susskind, 2015; Davenport & Kirby, 2016). As professionals transition from subject matter experts to collaborative decision makers, jobs that were previously completed by individuals are increasingly mechanized. (Jarrahi, 2018; Huang & Rust, 2018).

The automation of traditional positions created a challenge to people's professional autonomy and individuality. (Mackenzie, 2016; Brougham & Haar, 2018). AI-driven job redefinitions have an impact, particularly in the domains of education, law, and health, where algorithmic decision-making shapes moral values and self-perceptions. (Susskind, 2020; Elish, 2019; Lupton, 2021).

According to studies, when AI systems eliminate the interpersonal parts of a professional's employment or damage their judgment, they may cause identity dissonance. (Ziewitz, 2016; Eubanks, 2018). However, some adapt by embracing the inclusion of technology and developing hybrid professional identities. (Faraj et al., 2018; Glikson & Woolley, 2020).

The new identities often place a high value on cooperative adaptability, emotional intelligence, and digital literacy. (Arntz et al., 2016; Vial, 2019). Furthermore, professionals must reframe their value beyond their technical proficiency due to the culture of continuous learning essential for AI integration. (Brynjolfsson & McAfee, 2014; Westerman et al., 2014). The way AI alters identity is also influenced by sociocultural and gender factors; underrepresented professions are typically disproportionately affected by technological restructuring. (Crawford, 2021; Noble, 2018). The ethical dilemmas raised by AI also cause moral tensions that change how professionals view their own authority and responsibilities. (Mittelstadt et al., 2016; Zeng et al., 2022).

Therefore, so as to support identity reconstruction, organizations should promote psychological safety, inclusion, and training programs that help professionals integrate shifting employment with core values. (Haenlein & Kaplan, 2019; Wilson & Daugherty, 2018; Vrontis et al., 2021). As a result, AI alters not just tasks but also the fundamental sense of self that underpins professional work. (Gomez et al., 2020; Saldanha & Krishnan, 2022; Raisch & Krakowski, 2021).

### **OBJECTIVES**

1. To determine the impact of artificial intelligence on organisational culture among nursing community.

2. To assess the mediating role of perceived organisational support in between artificial intelligence and organisational culture among nursing community

## Research

gap

As artificial intelligence (AI) technology becomes more integrated into healthcare systems; more study has been done on its impact on clinical workflows and patient outcomes. However, little is understood about how this transition may affect society, particularly in the nursing field. Particularly, very little experimental research has been conducted on how AI is influencing nursing settings' organizational cultures and nurses' professional identities. Automating care tasks, making decisions using algorithms, and rearranging team dynamics all pose challenges to long-held nursing values including empathy, autonomy, and advocacy. The fact that nurses are routinely excluded from AI design and policy processes raises additional concerns about how they might impact and adjust to technological advancements. The closure of this gap is necessary to guarantee the long-term, inclusive, and moral use of AI in healthcare.

## RESEARCH METHODOLOGY

The information needed for this inquiry was gathered using both primary and secondary data. In order to guarantee representative coverage, 200 nurses employed in public and private hospitals throughout Kerala made up the study sample. They were chosen using a stratified random sampling procedure. A standardized questionnaire that was given to the respondents was used to gather primary data. Confirmatory Factor Analysis (CFA) was used to analyse the data and determine whether the variables were reliable. To illustrate the observed relationships and investigate mediation effects, structural equation modelling, or SEM, was employed. To further validate the mediation study, three particular mediation tests—the Sobel test, Aronian test, and Goodman test—were carried out in addition to SEM.

## HYPOTHESIS

How nursing practices are affected by artificial intelligence (AI) and how nurses' professional identities and organizational cultures mediate or reduce this influence. The proposed correlations between these variables are evaluated and validated quantitatively using structural equation modelling, or SEM. The following Hypothesis were formulated: -

H1: AI exerts significant positive impact on Organizational Culture among Nursing Community

H2: AI exerts significant positive impact on Professional Identity among Nursing Community

H3: Organisational Culture exerts significant positive impact on Professional Identity among Nursing Community

To identify the Impact of AI on Organisational Culture with Perceived Organisational Support as Mediating Variable, the following hypothesis is formulated

H4: Organizational Support significantly mediated the relationship between AI and Organizational Culture among Nursing Community.

To identify the impact of Artificial Intelligence on Professional Identity with Perceived Organisational Support as Mediating Variable the following hypothesis is formulated

H5: Organisational Support significantly mediated the relationship between AI and Professional Identity among Nursing Community

## ANALYSIS AND INTREPRETATION

### 1. ARTIFICIAL INTELLIGENCE, ORGANISATIONAL CULTURE AND PROFESSIONAL IDENTITY - INTERRELATIONSHIP

The integration of Artificial Intelligence (AI) into modern workplaces is reshaping not only how tasks are performed but also how organisations function and how professionals perceive themselves. AI-driven transformation influences organisational culture by altering communication patterns, decision-making processes, and workplace values. In turn, these cultural shifts impact professional identity—how individuals see their roles, skills, and sense of purpose within their profession. Understanding the interrelationship between AI, organisational culture, and professional identity is essential for navigating change effectively, ensuring ethical implementation, and maintaining cohesive and adaptive work environments.

#### 1.1. Artificial Intelligence - Psychometric Properties & Model Fit Indices

**psychometric properties** refer to the reliability and validity of tools used to measure AI-related constructs such as user trust, acceptance, or performance impact. **Model fit indices**, commonly used in structural equation modelling (SEM), assess how well a proposed theoretical model (e.g., how AI influences workplace behaviour) aligns with observed data, ensuring the robustness and accuracy of research findings.

**Table No:1**  
**Artificial Intelligence - Psychometric Properties & Model Fit Indices**

| Psychometric Properties |          |                                 |          |                       |                            | Model Fit indices |       |          |
|-------------------------|----------|---------------------------------|----------|-----------------------|----------------------------|-------------------|-------|----------|
| Factor                  | Measures | Standardized Regression Weights | P        | Composite Reliability | Average Variance Extracted | Index             | Value | Criteria |
| Artificial Intelligence | AI_1     | 0.724                           | <0.001** | 0.908                 | 0.587                      | CMIN/DF           | 1.235 | < 5      |
|                         | AI_2     | 0.818                           | <0.001** |                       |                            | GFI               | 0.995 | > 0.90   |
|                         | AI_3     | 0.798                           | <0.001** |                       |                            | AGFI              | 0.974 | > 0.90   |
|                         | AI_4     | 0.705                           | <0.001** |                       |                            | NFI               | 0.995 | > 0.90   |
|                         | AI_5     | 0.800                           | <0.001** |                       |                            | CFI               | 0.999 | > 0.90   |
|                         | AI_6     | 0.793                           | <0.001** |                       |                            | RMR               | 0.014 | < 0.080  |
|                         | AI_7     | 0.717                           | <0.001** |                       |                            | RMSEA             | 0.029 | < 0.080  |

\* Significant at 1% level

The above table shows that standard regression weights for AI items (AI 1 to AI 7) ranges from 0.705 to 0.818, all are significant at  $P < 0.001$  signifying strong individual item contribution to the overall AI construct. The composite reliability (CR) is 0.908, beyond the suggested edge of 0.70 signifying good internal reliability of AI construct. The Average Variance Extracted (AVE) is 0.587, which is above the minimum satisfactory value of 0.50, signifying good convergent validity ie the items share a high proportion of variance.

The model fits the data very well as it falls within the acceptable or ideal range. The AI construct shows a strong psychometric property with high reliability and validity. Additionally, the structural model establishes an excellent fit with data, indicating the measurement model is both statistically sound and conceptually robust.

## 1.2. Organisational Culture - Psychometric Properties & Model Fit Indices

To test the alignment of the model indicating the Impact of Artificial Intelligence on Organizational Culture and Professional Identity with the established theoretical model, model fit indices were used and the results are presented in **Table No.2**. The psychometric evaluation of organizational culture shows strong reliability and validity, with high standardized regression weights, composite reliability, and acceptable average variance extracted. Model fit indices—such as CFI, GFI, and RMSEA—fall within recommended thresholds, indicating that the measurement model for organizational culture fits the observed data well and accurately represents the underlying construct.

**Table No:2**  
**Organisational Culture - Psychometric Properties & Model Fit Indices**

| Psychometric Properties |          |                                 |          |                       |                            | Model Fit indices |       |          |
|-------------------------|----------|---------------------------------|----------|-----------------------|----------------------------|-------------------|-------|----------|
| Factor                  | Measures | Standardized Regression Weights | P        | Composite Reliability | Average Variance Extracted | Index             | Value | Criteria |
| Organizational Openness | OC_1     | 0.851                           | <0.001** | 0.913                 | 0.603                      | CMIN/DF           | 2.259 | < 5      |
|                         | OC_2     | 0.800                           | <0.001** |                       |                            | GFI               | 0.988 | > 0.90   |
|                         | OC_3     | 0.698                           | <0.001** |                       |                            | AGFI              | 0.954 | > 0.90   |
|                         | OC_4     | 0.651                           | <0.001** |                       |                            | NFI               | 0.985 | > 0.90   |
|                         | OC_5     | 0.884                           | <0.001** |                       |                            | CFI               | 0.992 | > 0.90   |
|                         | OC_6     | 0.809                           | <0.001** |                       |                            | RMR               | 0.023 | < 0.080  |
|                         | OC_7     | 0.714                           | <0.001** |                       |                            | RMSEA             | 0.066 | < 0.080  |
| Ethical Climate         | OC_7     | 0.651                           | <0.001** | 0.822                 | 0.538                      |                   |       |          |
|                         | OC_8     | 0.726                           | <0.001** |                       |                            |                   |       |          |
|                         | OC_9     | 0.719                           | <0.001** |                       |                            |                   |       |          |
|                         | OC_10    | 0.826                           | <0.001** |                       |                            |                   |       |          |
| Psychological Safety    | OC_11    | 0.682                           | <0.001** | 0.892                 | 0.580                      |                   |       |          |
|                         | OC_12    | 0.719                           | <0.001** |                       |                            |                   |       |          |
|                         | OC_13    | 0.700                           | <0.001** |                       |                            |                   |       |          |
|                         | OC_14    | 0.766                           | <0.001** |                       |                            |                   |       |          |
|                         | OC_15    | 0.854                           | <0.001** |                       |                            |                   |       |          |
|                         | OC_16    | 0.832                           | <0.001** |                       |                            |                   |       |          |
| Employee Autonomy       | OC_17    | 0.896                           | <0.001** | 0.915                 | 0.685                      |                   |       |          |
|                         | OC_18    | 0.875                           | <0.001** |                       |                            |                   |       |          |
|                         | OC_19    | 0.721                           | <0.001** |                       |                            |                   |       |          |
|                         | OC_20    | 0.881                           | <0.001** |                       |                            |                   |       |          |
|                         | OC_21    | 0.748                           | <0.001** |                       |                            |                   |       |          |

\* Significant at 1% level

Four dimensions such as Organizational Openness, Ethical Climate, Psychological Safety, and Employee Autonomy are used to analyse the concept of organizational culture. Every dimension illustrates:

The above table shows strong item contribution as standardised regression weight is high extending from 0.651 to 0.896, all significant at  $P < 0.001$ . Strong internal consistency is showed by Composite Reliability (CR) scores, which range from 0.822 to 0.915 and are all far above the proposed cutoff of 0.70. Good convergent validity is demonstrated by Average Variance Extracted (AVE) values, which vary from 0.538 to 0.685 and above the minimal threshold of 0.50 for all sub-constructs.

The statistical soundness of the organizational culture measurement model is confirmed by the fact that all model fit indicators fall within acceptable or optimal ranges. Strong agreement between the model and data is indicated by the high GFI, CFI, and NFI values; little error is suggested by the low RMR and tolerable RMSEA. As a result, the model successfully depicts the fundamental framework of organizational culture.

### 1.3. Professional Identity - Psychometric Properties & Model Fit Indices

With high standardized regression weights, composite reliability over the 0.70 threshold, and AVE values showing good convergent validity, the professional identity measuring model has significant psychometric qualities. The data was very well fits with model and reflects the construct of professional identity, as evidenced by model fit indices like CFI, GFI, and RMSEA, which fall within acceptable ranges.

**Table No:3**  
**Professional Identity - Psychometric Properties & Model Fit Indices**

| Psychometric Properties |          |                                 |          |                       |                            | Model Fit indices |       |          |
|-------------------------|----------|---------------------------------|----------|-----------------------|----------------------------|-------------------|-------|----------|
| Factor                  | Measures | Standardized Regression Weights | P        | Composite Reliability | Average Variance Extracted | Index             | Value | Criteria |
| Role Perception         | PI_1     | 0.666                           | <0.001** | 0.894                 | 0.549                      | CMIN/DF           | 1.618 | < 5      |
|                         | PI_2     | 0.712                           | <0.001** |                       |                            | GFI               | 0.993 | > 0.90   |
|                         | PI_3     | 0.799                           | <0.001** |                       |                            | AGFI              | 0.966 | > 0.90   |
|                         | PI_4     | 0.753                           | <0.001** |                       |                            | NFI               | 0.989 | > 0.90   |
|                         | PI_5     | 0.752                           | <0.001** |                       |                            | CFI               | 0.996 | > 0.90   |
|                         | PI_6     | 0.820                           | <0.001** |                       |                            | RMR               | 0.029 | < 0.080  |
|                         | PI_7     | 0.670                           | <0.001** |                       |                            | RMSEA             | 0.046 | < 0.080  |
| Skill Upliftment        | PI_7     | 0.776                           | <0.001** | 0.872                 | 0.577                      |                   |       |          |
|                         | PI_8     | 0.750                           | <0.001** |                       |                            |                   |       |          |
|                         | PI_9     | 0.780                           | <0.001** |                       |                            |                   |       |          |
|                         | PI_10    | 0.674                           | <0.001** |                       |                            |                   |       |          |
|                         | PI_11    | 0.810                           | <0.001** |                       |                            |                   |       |          |
| Professional            | PI_12    | 0.741                           | <0.001** | 0.824                 | 0.540                      |                   |       |          |
|                         | PI_13    | 0.753                           | <0.001** |                       |                            |                   |       |          |
|                         | PI_14    | 0.725                           | <0.001** |                       |                            |                   |       |          |
|                         | PI_15    | 0.719                           | <0.001** |                       |                            |                   |       |          |
| Value Alignment         | PI_16    | 0.833                           | <0.001** | 0.857                 | 0.602                      |                   |       |          |
|                         | PI_17    | 0.827                           | <0.001** |                       |                            |                   |       |          |
|                         | PI_18    | 0.735                           | <0.001** |                       |                            |                   |       |          |
|                         | PI_19    | 0.699                           | <0.001** |                       |                            |                   |       |          |

\* Significant at 1% level

Role perception, skill upliftment, sense of professional pride, and value alignment are the four main characteristics that are used to measure the construct of professional identity. In every dimension:

Strong item contributions to their respective variables are indicated by standardised regression weights, which range from 0.666 to 0.833 and are all significant at  $p < 0.001$ .

Strong internal consistency is confirmed by Composite Reliability (CR) values, which vary from 0.824 to 0.894 and surpass the minimum requirement of 0.70. Items within each factor have enough common variance, indicating adequate convergent validity, with Average Variance Extracted (AVE) values over the 0.50 criterion, ranging from 0.540 to 0.602.

The model fit indices confirm an excellent overall fit to the data, validating the theoretical structure of professional identity as reflected in role clarity, skill development, pride, and value alignment.

#### 1.4. Interrelationship between Artificial Intelligence, Organisational Culture and Professional Identity among Nursing Community - Structural Equation Model

How nursing practices are affected by artificial intelligence (AI) and how nurses' professional identities and organizational cultures mediate or reduce this influence. The proposed correlations between these variables are evaluated and validated quantitatively using structural equation modelling, or SEM.

H1: AI exerts significant positive impact on Organizational Culture among Nursing Community

H2: AI exerts significant positive impact on Professional Identity among Nursing Community

H3: Organisational Culture exerts significant positive impact on Professional Identity among Nursing Community

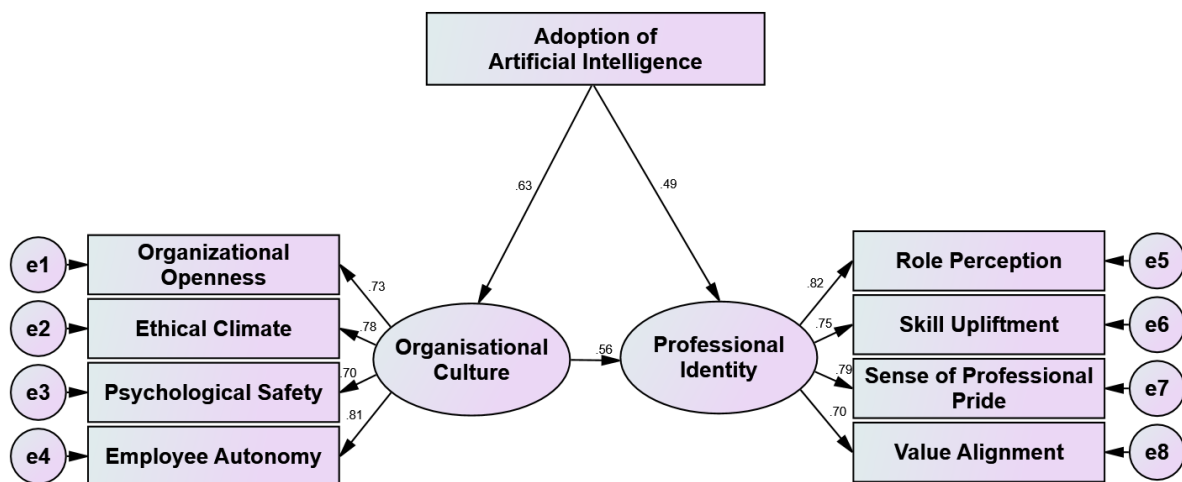


Figure No:1

Structural Equation Model on the Interrelationship between Artificial Intelligence, Organisational Culture and Professional Identity among Nursing Community

**Table No:4**  
**Interrelationship between Artificial Intelligence, Organisational Culture and Professional Identity among Nursing Community - Coefficient**

| Factors                 |   |                        | Coefficient | S.E   | C.R    | P        | Decision     |
|-------------------------|---|------------------------|-------------|-------|--------|----------|--------------|
| Artificial Intelligence | → | Organizational Culture | 0.627       | 0.054 | 13.394 | <0.001** | H1 Supported |
| Artificial Intelligence | → | Professional Identity  | 0.494       | 0.052 | 11.841 | <0.001** | H2 Supported |
| Organisational Culture  | → | Professional Identity  | 0.558       | 0.049 | 12.793 | <0.001** | H3 Supported |

*\*Significant at 1% level*

**H1: Artificial Intelligence exerts significant positive impact on Organizational Culture among Nursing Community.**

The Null hypothesis is accepted as Coefficient ( $\beta = 0.627$ ) is highly favourable. The analysis indicates that AI implementation and integration in the nursing setting greatly improves organizational culture, most likely by encouraging creativity, effectiveness, and contemporary workflows. Introducing nurses to AI tools fosters a culture that is more adaptable, tech-savvy, and collaborative.

**H2: Artificial Intelligence exerts significant positive impact on Professional Identity among Nursing Community**

The null hypothesis is accepted as Coefficient ( $\beta = 0.494$ ), that is moderate to strong. The analysis states that the practice of AI has a favourable effect on nurses' perceptions of their professional identities, maybe as a result of their duties being expanded to encompass decision support, data analysis, and technological use. Instead of weakening nurses' conventional responsibilities, AI increases their relevance and adaptability in modern healthcare

**H3: Organizational Culture exerts significant positive impact on Professional Identity among Nursing Community**

The null hypothesis is accepted as Coefficient ( $\beta = 0.558$ ) that is a strong positive connection exists. Analysis shows that nurses' professional identities are significantly strengthened by an innovative and encouraging organizational culture. Nurses are more likely to feel appreciated, competent, and secure in their positions when their workplace promotes growth, teamwork, and adaptability.

The model confirms that every relationship is statistically significant and positively connected, indicating that the adoption of AI can strengthen nurses' sense of purpose and belonging in their careers when it is accompanied by a positive culture.

**1.5. Impact of AI on Organizational Culture and Professional Identity - Model Fit Indices**

To test the alignment of the model indicating the Impact of AI on Organizational Culture and Professional Identity with the established theoretical model, model fit indices were used and the results are presented in **Table No.5**

**Table No:5**  
**Impact of Artificial Intelligence on Organizational Culture**  
**and Professional - Model Fit Indices**

| Index | CMIN/DF | GFI   | AGFI  | NFI   | CFI   | RMR   | RMSEA |
|-------|---------|-------|-------|-------|-------|-------|-------|
| Value | 2.068   | 0.993 | 0.930 | 0.989 | 0.992 | 0.018 | 0.041 |

The model indicates the fact that all of the fit indices meet conventional thresholds. This indicates that the correlations suggested that AI has a major impact on both professional identity and organizational culture. They are statistically sound and accurately reflected by the model structure. Minimal errors between the predicted and actual values are confirmed by the low RMSEA and RMR values.

## **2. IMPACT OF ARTIFICIAL INTELLIGENCE ON ORGANISATIONAL CULTURE AND PROFESSIONAL IDENTITY – MEDIATING ROLE OF PERCEIVED ORGANISATIONAL SUPPORT**

This explains how artificial intelligence (AI) impacts an organization's culture and employees' professional identities, as well as how these effects may be mediated or influenced by the organization's perceived support.

### **2.1. Perceived Organisational Support - Psychometric Properties & Model Fit Indices**

To recognize and measure **Perceived Organisational Support (POS)**, it's important to assess the **psychometric properties** of the POS scale and evaluate the **model fit indices** when using it in structural equation modelling (SEM) or confirmatory factor analysis (CFA).

**Table No:6**  
**Perceived Organisational Support - Psychometric Properties & Model Fit Indices**

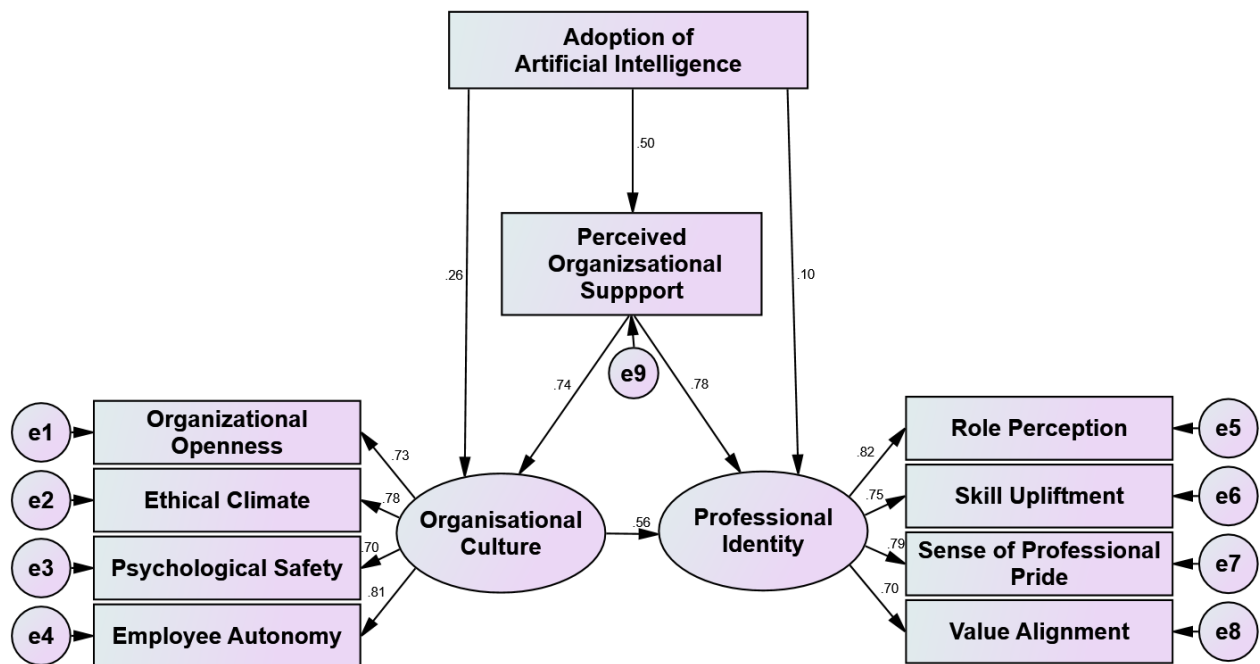
| Psychometric Properties          |          |                                 |          |                       |                            | Model Fit indices |       |          |
|----------------------------------|----------|---------------------------------|----------|-----------------------|----------------------------|-------------------|-------|----------|
| Factor                           | Measures | Standardized Regression Weights | P        | Composite Reliability | Average Variance Extracted | Index             | Value | Criteria |
| Perceived Organisational Support | POS_1    | 0.674                           | <0.001** | 0.904                 | 0.574                      | CMIN/DF           | 1.828 | < 5      |
|                                  | POS_2    | 0.739                           | <0.001** |                       |                            | GFI               | 0.994 | > 0.90   |
|                                  | POS_3    | 0.720                           | <0.001** |                       |                            | AGFI              | 0.970 | > 0.90   |
|                                  | POS_4    | 0.855                           | <0.001** |                       |                            | NFI               | 0.992 | > 0.90   |
|                                  | POS_5    | 0.811                           | <0.001** |                       |                            | CFI               | 0.996 | > 0.90   |
|                                  | POS_6    | 0.761                           | <0.001** |                       |                            | RMR               | 0.021 | < 0.080  |
|                                  | POS_7    | 0.730                           | <0.001** |                       |                            | RMSEA             | 0.054 | < 0.080  |

**\* Significant at 1% level**

Excellent psychometric qualities are demonstrated by the POS measuring model. Every indicator loading is substantial and powerful, with a CR of 0.904, the scale is quite reliable. There is support for convergent validity (AVE = 0.574). Furthermore, all of the model fit indices match or exceed suggested criteria, indicating that the measurement model fits the data quite well.

## 2.2. Impact of AI on Organizational Culture and Professional Identity with Perceived Organisational Support as Mediating Variable - Structural Equation Model

This investigates the mediating function of perceived organizational support (POS) while examining the structural links between professional identity, organizational culture, and the use of artificial intelligence (AI). In order to comprehend how POS mediates the influence of AI on cultural and identity dynamics in the workplace, structural equation modelling, is utilized to assess both direct and indirect pathways.



**Figure No:2**

**Structural Equation Model on the Impact of AI on Organizational Culture and Professional Identity with Perceived Organisational Support as Mediating Variable**

### 2.2.1. Impact of AI on Organizational Culture - Mediating Role of Perceived Organisational Support.

The combination of **AI** in organizations is converting traditional structures, workflows, and communication patterns, thereby influencing the **organizational culture**. While AI can promote innovation, efficiency, and data-driven decision-making, it may also disrupt established norms, create resistance, or lead to uncertainty among employees. In this context, **Perceived Organisational Support (POS)** plays a crucial **mediating role**. When staffs feel that their organization morals their contributions and happiness, they are more likely to embrace cultural changes brought about by AI.

H4: Organisational Support significantly mediated the relationship between AI and Organizational Culture among Nursing Community

**Table No:7**  
**Impact of AI on Organisational Culture with Perceived Organisational Support as Mediating Variable - Total, Direct and Indirect Effects**

| Independent Variable    |             | Mediating Variable               |             | Dependent Variable       |                     |
|-------------------------|-------------|----------------------------------|-------------|--------------------------|---------------------|
| Artificial Intelligence |             | Perceived Organisational Support |             | Organisational Culture   |                     |
|                         | Coefficient | P                                | Result      | Hypothesis Status        | Nature of Mediation |
| Total Effect            | 0.627       | <0.001**                         | Significant | H <sub>4</sub> Supported | Partial Mediation   |
| Direct Effect           | 0.259       | <0.001**                         | Significant |                          |                     |
| Indirect Effect         | 0.368       | <0.001**                         | Significant |                          |                     |

\*Significant at 1% level

H4: Organizational Support significantly mediated the relationship between Artificial Intelligence and Organizational Culture among Nursing Community.

The structural equation modelling (SEM) results indicate a **significant relationship** between **Artificial Intelligence (AI)** and **Organisational Culture**, with **Perceived Organisational Support (POS)** acting as a **partial mediator**.

With a p-value < 0.001, the total effect of AI on organizational culture is 0.627, suggesting a significant and robust influence. AI has a statistically significant direct effect on organizational culture of 0.259 (p < 0.001). At the 1% level (p < 0.001), the indirect effect of AI on organizational culture via POS is 0.368.

The results implies that although AI has a role in organizational culture shifts on its own, its effects are magnified when staff members believe their company is supporting them. In order to enhance cultural alignment and acceptance of technological innovation, organizations that invest in AI should also prioritize maintaining or improving their employee support networks.

### 2.2.2. Impact of AI on organizational Culture - Mediating Role of Perceived Organisational Support.

The adoption of **Artificial Intelligence (AI)** in the workplace is reshaping organizational structures, communication flows, and decision-making processes, which in turn has a profound influence on **organizational culture**. As AI drives automation and digital transformation, it can challenge traditional norms and employee interactions. **Perceived Organisational Support (POS)** serves as a critical **mediating variable**, potentially strengthening or buffering the impact of AI on organizational culture.

H5: Organisational Support significantly mediated the relationship between AI and Professional Identity among Nursing Community

**Table No:8**  
**Impact of AI on Professional Identity with Perceived Organisational Support as Mediating Variable - Total, Direct and Indirect Effects**

| Independent Variable    |             | Mediating Variable               |             | Dependent Variable    |                     |
|-------------------------|-------------|----------------------------------|-------------|-----------------------|---------------------|
| Artificial Intelligence |             | Perceived Organisational Support |             | Professional Identity |                     |
|                         | Coefficient | P                                | Result      | Hypothesis Status     | Nature of Mediation |
| Total Effect            | 0.494       | <0.001**                         | Significant | H <sub>5</sub>        | Full                |

|                 |       |          |               |                  |                  |
|-----------------|-------|----------|---------------|------------------|------------------|
| Direct Effect   | 0.103 | 0.072    | Insignificant | <b>Supported</b> | <b>Mediation</b> |
| Indirect Effect | 0.391 | <0.001** | Significant   |                  |                  |

\*Significant at 1% level

H5: Organizational Support significantly mediated the relationship between Artificial Intelligence and Professional Identity among Nursing Community

The outcomes of structural equation model (SEM) states the importance of **Perceived Organisational Support (POS)** in mediating the relationship between **Artificial Intelligence (AI)** and **Professional Identity**.

With a p-value < 0.001, the total effect of AI on professional identity is 0.494, suggesting a strong positive correlation. AI has a statistically insignificant direct effect on professional identity of 0.103 with a p-value of 0.072. A strong and significant mediating effect is indicated by the indirect effect of AI on professional identity through POS, which is 0.391 with a p-value < 0.001.

The results show that professional identity is only affected by AI when workers perceive that their company supports them. A crucial psychological factor that aids workers in redefining their professional responsibilities and values in the face of technological change is perceived organizational support. Adoption of AI by itself has no effect on how workers see their professional identities in the absence of this perceived support.

### 2.3. Impact of Artificial Intelligence on Organizational Culture and Professional Identity with Perceived Organisational Support as Mediating Variable - Model Fit Indices

The overall fit of the structural equation model (SEM) must be evaluated in order to validate the suggested structural relationships. This section displays the model fit indices for the proposed framework, which investigates how Perceived Organizational Support (POS) mediates the effects AI on Professional Identity and Organizational Culture. The model's adequacy is evaluated using fit indices such CMIN/DF, GFI, AGFI, CFI, NFI, RMSEA, and RMR, which offer a solid foundation for analyzing the direct and indirect effects seen in the SEM analysis.

**Table No:9**

#### Impact of Artificial Intelligence on Organizational Culture and Professional Identity with Perceived Organisational Support as Mediating Variable - Model Fit Indices

| Index        | CMIN/DF | GFI   | AGFI  | NFI   | CFI   | RMR   | RMSEA |
|--------------|---------|-------|-------|-------|-------|-------|-------|
| <b>Value</b> | 3.139   | 0.991 | 0.936 | 0.971 | 0.980 | 0.035 | 0.072 |

The model is statistically sound and appropriate for interpreting the relationships among Artificial Intelligence, Organizational Culture, Professional Identity, and Perceived Organizational Support, as evidenced by the high values for GFI, AGFI, NFI, and CFI, as well as low RMR and an RMSEA within acceptable bounds.

### Implications and Interpretations

The results of this study offer strong evidence that application of AI in nursing practice is a significant driver for both professional and cultural change, in addition to being a technological improvement. AI significantly enhances organizational culture by promoting adaptability, innovation, and collaboration—essential traits for modern healthcare environments. Simultaneously, it reshapes professional identity by broadening the scope of nursing roles to include data analysis, decision-support, and technological engagement. “Nevertheless, the paper also emphasizes that these advantages cannot be obtained by merely introducing AI. The impact of AI on organizational culture and

professional identity is greatly amplified when nurses feel appreciated, supported, and participated in the process of transformation. Perceived Organizational Support (POS) is a crucial mediating factor in this regard. AI adoption in healthcare settings depends on this psychological and environmental milieu.

These findings suggest that healthcare organizations should tackle AI integration from two angles: technological deployment and human-centered assistance. To increase trust and participation among nursing staff, recommendations include integrating AI with organized support systems including ongoing training, mentorship, and inclusive decision-making. In order to ensure that AI technologies are co-designed with input from frontline nurses for usability and contextual relevance, leaders should cultivate a culture of innovation and ongoing learning. Policy frameworks must also address ethical concerns, data privacy, and professional autonomy to safeguard the integrity of care. Ultimately, the success of AI in transforming healthcare is not determined by algorithms alone but by how well organizations empower their human workforce to grow alongside these technologies. Only when AI implementation is paired with robust organizational support can the nursing community fully realize its potential, advancing both professional identity and care excellence in a digitally evolving healthcare system.

### **Scope for Future Research**

Future studies should investigate the long-term effects of AI integration on nursing practice, with a focus on the ways that persistent Perceived Organizational Support (POS) affects long-term changes in organizational culture and professional identity. “Studies could also look into how AI differs in different healthcare settings and specialties, taking into account things like nurse demographics, leadership engagement, and institutional readiness. Research is also required to examine the ethical and affective aspects of AI use in nursing, such as data governance, human-centered care principles, and confidence in AI systems. By tackling these issues, subsequent research can offer more profound understandings of how to best implement AI in a manner that promotes both technical advancement and the welfare of nursing practitioners.

### **References**

1. Arntz, M., Gregory, T., & Zierahn, U. (2016). The risk of automation for jobs in OECD countries: A comparative analysis. *\*OECD Social, Employment and Migration Working Papers\**, \*189\*.
2. Brougham, D., & Haar, J. (2018). Smart technology, artificial intelligence, robotics, and algorithms (STARA): Employees’ perceptions of our future workplace. *\*Journal of Management & Organization\**, \*24\*(2), 239–257.
3. Brynjolfsson, E., & McAfee, A. (2014). *\*The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies\**. W. W. Norton & Company.
4. Crawford, K. (2021). *\*Atlas of AI: Power, Politics, and the Planetary Costs of Artificial Intelligence\**. Yale University Press.
5. Davenport, T. H., & Kirby, J. (2016). *\*Only Humans Need Apply: Winners and Losers in the Age of Smart Machines\**. HarperBusiness.
6. Elish, M. C. (2019). Moral crumple zones: Cautionary tales in human-robot interaction. *\*Engaging Science, Technology, and Society\**, \*5\*, 40–60.

7. Eubanks, V. (2018). *\*Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor\**. St. Martin's Press.
8. Faraj, S., Pachidi, S., & Sayegh, K. (2018). Working and organizing in the age of the learning algorithm. *\*Information and Organization\**, *\*28\*(1)*, 62–70.
9. Glikson, E., & Woolley, A. W. (2020). Human trust in artificial intelligence: Review of empirical research. *\*Academy of Management Annals\**, *\*14\*(2)*, 627–660.
10. Gomez, C., Denyer, D., & Jones, L. (2020). The changing nature of professional identity in the age of artificial intelligence. *\*Journal of Organizational Change Management\**, *\*33\*(5)*, 891–910.
11. Haenlein, M., & Kaplan, A. (2019). A brief history of artificial intelligence: On the past, present, and future of artificial intelligence. *\*California Management Review\**, *\*61\*(4)*, 5–14.
12. Huang, M. H., & Rust, R. T. (2018). Artificial intelligence in service. *\*Journal of Service Research\**, *\*21\*(2)*, 155–172.
13. Jarrahi, M. H. (2018). Artificial intelligence and the future of work: Human-AI symbiosis in organizational decision making. *\*Business Horizons\**, *\*61\*(4)*, 577–586.
14. Lupton, D. (2021). Data selves and digital labor in health and fitness self-tracking. *\*Social Theory & Health\**, *\*19\*(2)*, 223–239.
15. Mackenzie, A. (2016). The production of prediction: What does machine learning want? *\*European Journal of Cultural Studies\**, *\*20\*(5)*, 551–566.
16. Mittelstadt, B. D., Allo, P., Taddeo, M., Wachter, S., & Floridi, L. (2016). The ethics of algorithms: Mapping the debate. *\*Big Data & Society\**, *\*3\*(2)*, 2053951716679679.
17. Noble, S. U. (2018). *\*Algorithms of Oppression: How Search Engines Reinforce Racism\**. NYU Press.
18. Raisch, S., & Krakowski, S. (2021). Artificial intelligence and management: The automation–augmentation paradox. *\*Academy of Management Review\**, *\*46\*(1)*, 192–210.
19. Saldanha, T., & Krishnan, M. S. (2022). How AI is changing professional work and identity. *\*MIS Quarterly Executive\**, *\*21\*(1)*, 41–59.
20. Susskind, R. (2020). *\*Online Courts and the Future of Justice\**. Oxford University Press.
21. Susskind, R., & Susskind, D. (2015). *\*The Future of the Professions: How Technology Will Transform the Work of Human Experts\**. Oxford University Press.
22. Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *\*The Journal of Strategic Information Systems\**, *\*28\*(2)*, 118–144.

23. Vrontis, D., Christofi, M., Pereira, V., Tarba, S., Makrides, A., & Trichina, E. (2021). Artificial intelligence, robotics, advanced technologies and human resource management: A systematic review. *\*The International Journal of Human Resource Management\**, 1–30.
24. Westerman, G., Bonnet, D., & McAfee, A. (2014). *\*Leading Digital: Turning Technology into Business Transformation\**. Harvard Business Press.
25. Wilson, H. J., & Daugherty, P. R. (2018). Collaborative intelligence: Humans and AI are joining forces. *\*Harvard Business Review\**, *\*96\**(4), 114–123.