



Educational Policies Based on Artificial Intelligence Tools Role in Developing Intellectual Capital

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Abstract

This study investigates the role of educational policies based on artificial intelligence (AI) tools in developing intellectual capital within universities. Quantitative approach, the research focuses on academic and administrative staff as the target population, which consisted of (104) employee, a random sample of (46) employee were chosen to answer the questionnaire. The study examines whether variables such as gender, academic qualification, nature of work, and years of experience influence perceptions regarding AI-based educational policies. The findings indicate a moderate overall role of AI-driven policies in enhancing intellectual capital. Furthermore, the results reveal no statistically significant differences across the examined demographic and professional variables. The study highlights the importance of standardizing AI policy implementation, promoting professional development, and ensuring equitable access to AI tools for all staff. The findings provide guidance for university administrators and policymakers to design effective AI strategies that foster knowledge creation, innovation, and sustainable intellectual capital development.

Keywords: Artificial Intelligence, Educational Policies, Intellectual Capital, Higher Education, Staff Development

Introduction

The emergence of artificial intelligence (AI) technologies has had a transformative impact on educational systems around the world, reshaping how knowledge is produced, shared, and managed. As countries enter the era of the Fourth Industrial Revolution, AI has become a cornerstone of educational policy development, providing innovative tools to improve teaching strategies and enhance institutional efficiency (Al Momani *et al.*, 2021) ^[1]. This technological transformation requires educational systems to not only integrate AI into learning processes but also align their strategic objectives with a broader vision of intellectual capital growth, ensuring sustainable development through intelligent decision-making frameworks (Suleimankadieva *et al.*, 2021) ^[21].

AI-guided educational policies aim to enhance the cognitive, structural, and relational dimensions of intellectual capital within academic institutions. These tools help policymakers and educators identify skill gaps, customize learning paths, and manage intellectual resources more effectively (Almanie, 2025) ^[4]. By leveraging data analytics and predictive algorithms, institutions can strengthen their knowledge management systems and support evidence-based policy design. AI thus represents a driver and enabler of intellectual capital formation, particularly through digital learning ecosystems (Poquet and De Laat, 2021) ^[17].

From a strategic perspective, AI-enabled educational frameworks encourage human capital development through adaptive learning technologies and automated performance assessment. These innovations enhance critical thinking, creativity, and problem-solving skills, which are essential components of intellectual capital (Ibrahim, 2024) ^[9].

Furthermore, as Bucea-Manea-Țoniș *et al.* (2022, p. 5848) ^[6] point out, AI-enhanced environments in higher education institutions improve access to learning resources and foster interdisciplinary collaboration, facilitating intellectual growth for both educators and learners.

Recent studies confirm that artificial intelligence in education not only supports the development of cognitive skills but also enhances organizational and relational capital by fostering trust, collaboration, and communication (Kuzior *et al.*, 2022, p. 11940) ^[12]. Through intelligent systems, universities can build data-driven policies that connect relevant academic stakeholders, streamline administrative processes, and enhance institutional performance. This integration transforms universities into knowledge-intensive institutions capable of flexibly responding to social and economic changes (Švarc *et al.*, 2021, p. 772) ^[22].

In the context of Industry 5.0, sustainable development relies on the alignment of technological innovation with human-centered learning. AI-based education policies are effective in equipping the workforce with future-proof skills and bridging the gap between digital transformation and intellectual capital development (Al Mubarak, 2023, p. 19) ^[2]. As Rajagopal *et al.* (2022, p. 780) ^[19] emphasize, AI frameworks promote continuous learning and efficient decision-making, enhancing the interconnectedness of knowledge, technology, and human value creation.

Furthermore, integrating AI into education policies enhances the management of structural capital—the institutional systems, databases, and intellectual property that support innovation. Alvino *et al.* (2021, p. 80) ^[5] note that intellectual capital thrives in institutions that adopt AI-based governance models, as these tools improve knowledge flow and institutional learning. By integrating smart data systems, universities and ministries of education can measure intellectual performance, anticipate development needs, and build a sustainable intellectual infrastructure (Jarrahi *et al.*, 2023, p. 128) ^[11].

Generative AI, as a new paradigm for technological advancement, offers additional opportunities to enhance intellectual capital in education. According to MacDonald *et al.* (2025, p. 3) ^[14], adopting generative models in educational policies encourages creativity and content personalization, while maintaining ethical and institutional standards. Similarly, Chang and Kidman (2023, p. 87) ^[7] highlight that AI-powered systems can reshape knowledge creation and dissemination processes, making education a strategic driver of intellectual and societal progress.

In conclusion, AI-powered educational policies represent a transformative path toward developing and sustaining intellectual capital in academic and institutional spheres. As global education systems evolve, the integration of smart tools will redefine how learning outcomes are measured and how human potential is cultivated (Chang *et al.*, 2025, p. 7) ^[25]. The intersection of AI technologies, educational leadership, and intellectual capital represents a critical turning point, where innovations and human intellect converge to shape the future of sustainable education (Wang *et al.*, 2025, p. 1010) ^[24].

Background of the Study

The increasing complexity of the digital age has reshaped the structure and objectives of educational systems globally. Artificial intelligence (AI) has emerged as a catalyst for

innovation, radically transforming traditional approaches to teaching, learning, and management (Al-Momani *et al.*, 2021, p. 84) ^[1]. This transformation is not only technological but also strategic, redefining the competencies required for sustainable institutional growth. AI-based tools enable decision-makers to develop data-driven educational policies that enhance the efficiency, transparency, and intellectual capacity of teachers and learners (Suleimankadieva *et al.*, 2021, p. 61) ^[21]. Thus, education has entered a new phase in which smart technologies directly shape the development of intellectual capital.

Educational institutions today face the challenge of integrating AI into their strategic and operational frameworks to enhance knowledge production and dissemination. As Alavi, Leidner, and Mousavi (2024, p. 3) ^[3] explain, generative AI supports advanced knowledge management practices by accelerating the flow of information and encouraging innovation. In this sense, the digital transformation of education goes beyond infrastructure; it refers to the emergence of data-driven intellectual systems. These systems enable the systematic growth of intellectual capital, combining human creativity with technological precision (Poquet and De Laat, 2021, p. 1697) ^[17].

Intellectual capital in education is based on three key dimensions: human, structural, and relational capital. AI enhances these components by supporting advanced analytics, continuous learning, and improved stakeholder engagement (Kuzior *et al.*, 2022, p. 11938) ^[12]. For example, machine learning algorithms analyze student performance data to identify learning gaps, while intelligent systems facilitate collaboration between teachers and administrators (Švarc *et al.*, 2021, p. 769) ^[22]. As a result, AI-based policies enhance institutional effectiveness and stimulate intellectual growth through real-time insights and adaptive strategies.

Recent global crises, such as the COVID-19 pandemic, have accelerated the adoption of AI-based educational tools and policies. These technologies have enabled remote learning, digital assessment, and continuous engagement despite physical constraints (Al-Momani *et al.*, 2021, p. 95) ^[1]. Furthermore, the pandemic has highlighted the need for flexible and resilient intellectual systems capable of maintaining the flow of knowledge under uncertain conditions. In this context, AI-based education has emerged as a strategic response to support the development of intellectual capital while ensuring the continuity of learning and research (Odrakiewicz *et al.*, 2022, p. 6) ^[16].

The concept of Industry 5.0 emphasizes a human-centered approach that balances digitalization and sustainability. AI-informed education policies align with this philosophy, focusing on enhancing skills, creativity, and ethical intelligence (Al Mubarak, 2023, p. 19) ^[2]. These policies promote lifelong learning and prepare future generations for complex, knowledge-based economies. According to Rajagopal *et al.* (2022, p. 782) ^[19], AI enhances organizational decision-making processes and bridges the gap between technology and human intellect. Education, therefore, becomes a vital arena for nurturing the intellectual capital necessary for the sustainable growth of Industry 5.0. Higher education institutions (HEIs) are at the forefront of implementing AI-based education policies to improve academic outcomes and institutional governance. As Bucea-Manea-Țoniș *et al.* (2022, p. 5849) ^[6] note, universities in Romania and Serbia have successfully leveraged AI to

enhance personalized learning, assessment, and knowledge sharing. These initiatives have contributed to the development of human and structural capital by integrating digital intelligence into learning environments. Furthermore, these policies enhance the role of universities as innovation centers that generate, manage, and transfer intellectual assets across disciplines (Almanie, 2025, p. 22) ^[4].

Generative AI tools, including language and content models, are redefining how knowledge is produced and communicated in education. MacDonald *et al.* (2025, p. 4) ^[14] found that institutional adoption of these technologies has prompted the creation of new governance models focused on ethics, transparency, and academic integrity. In parallel, Chang and Kidman (2023, p. 88) ^[7] noted that these systems enable opportunities for contextual learning and research productivity. Therefore, educational policies must balance innovation and regulation to ensure that AI contributes positively to intellectual capital formation without compromising academic values.

In short, integrating AI tools into educational policies represents a pivotal step toward sustainable knowledge economies. AI's ability to collect, interpret, and apply educational data enhances the quality and scope of intellectual capital across institutions (Chang *et al.*, 2025, p. 8) ^[25]. As Wang, Sun, and Li (2025, p. 1011) ^[24] emphasize, technology adoption should be complemented by human development strategies to ensure long-term innovation. Therefore, the evolution of education policy in the age of artificial intelligence is not limited to digital adaptation alone, but rather means the strategic transformation of education into a generator of intellectual capital for global progress.

Theoretical Framework

The theoretical foundation of this study is based on the knowledge-based view (KBV) of the organization, which asserts that knowledge is the most important strategic resource for maintaining a competitive advantage. Within educational institutions, AI acts as a knowledge enabler by capturing, analyzing, and disseminating tacit and explicit knowledge to enhance decision-making (Alavi *et al.*, 2024, p. 5) ^[3]. Consequently, AI-based educational policies enhance knowledge creation and transfer processes, enabling schools and universities to build intellectual capital as a dynamic and renewable asset (Quintero-Quintero *et al.*, 2021, p. 48) ^[18]. This integration aligns with the KBV hypothesis that institutional effectiveness depends on the quality of intellectual and information resources. Intellectual capital theory further supports this research by framing education as a system for developing human, structural, and relational capital. According to Alvino *et al.* (2021, p. 78) ^[5], intellectual capital is the sum of intangible assets that generate value through innovation and learning. AI-based educational policies contribute to this process by regulating knowledge management and promoting evidence-based decision-making (Almanie, 2025, p. 23) ^[4]. The use of machine learning, analytics, and intelligent data systems enhances the visibility and use of intellectual assets, creating an adaptive and knowledge-rich learning environment.

Human capital theory offers a complementary perspective by emphasizing investment in human capital as a key driver of productivity and innovation. AI-enabled educational reforms enable teachers and students to develop advanced digital and cognitive skills necessary for success in technology-intensive environments (Ibrahim, 2024, p. 5) ^[9]. Through data-driven training and personalized learning systems, educational institutions can improve the quality of their human capital while aligning competencies with future workforce requirements (Jaiswal *et al.*, 2023, p. 116) ^[10]. Thus, AI acts as a facilitator of learning and an accelerator of intellectual capacity.

Organizational learning theory is another related framework that explains how organizations evolve through the continuous acquisition, interpretation, and use of information. Jarrahi *et al.* (2023, p. 127) ^[11] argue that AI technologies enhance this process by automating feedback loops and supporting institutional memory. In the educational context, these tools enable policymakers to monitor performance trends, evaluate policy outcomes, and redesign curricula in real time. These continuous learning cycles enhance organizations' ability to adapt and retain knowledge, thus enhancing the sustainability of intellectual capital (Rajagopal *et al.*, 2022, p. 781) ^[19].

Sociotechnical systems theory helps explain how AI tools interact with human and structural components within educational systems. As Bucea-Manea-Țoniș *et al.* (2022, p. 5850) ^[6] emphasize, the effectiveness of AI-based policies depends on the balanced integration of technology, individuals, and institutional culture. When institutions coordinate these components, AI becomes a facilitator of intellectual collaboration rather than simply a technological tool. This alignment enhances collective intelligence and supports a sustainable educational environment for knowledge sharing and innovation (Kuzior *et al.*, 2022, p. 11941) ^[12].

Innovation Diffusion Theory (IDT), introduced by Rogers, offers insights into how AI-based educational technologies are adopted and institutionalized. According to Chang and Kidman (2023, p. 88) ^[7], teachers' willingness to experiment with generative AI depends on perceived usefulness, institutional support, and ethical awareness. Successful diffusion of AI into educational policies requires strategic leadership and trust-building mechanisms (Almanie, 2025, p. 25) ^[4]. Through effective communication channels and professional development programs, educational systems can foster innovation that enhances individual and collective intellectual capital.

Systems theory provides a comprehensive understanding of how educational policies, technological tools, and intellectual capital interact as an integrated system. As Al Mubarak (2023, p. 20) ^[2] and Wang *et al.* (2025, p. 1012) ^[24] explain, AI acts as a systemic input that influences institutional processes, human development, and knowledge outcomes. AI-based policies must therefore consider the interconnectedness of governance structures, pedagogical models, and innovation systems. By viewing education as a dynamic system, policymakers can ensure that intellectual

capital evolves in line with technological and social transformations.

Finally, sustainability theory grounds this study within the broader paradigm of long-term human and institutional development. AI-based educational policies not only promote efficiency but also ensure equitable access to knowledge and the responsible use of digital resources (Chang *et al.*, 2025, p. 9) [25]. As Alvino *et al.* (2021, p. 88) [5] emphasize, intellectual capital is only sustainable when education fosters innovation, inclusiveness, and ethical responsibility. Therefore, integrating AI into educational frameworks is not just a technological development, but a strategic path towards building resilient, knowledge-based societies built on sustainable intellectual capital.

Gaps in the Literature

Despite the growing interest in AI applications in higher education, there are still several gaps in the literature regarding the role of AI-based educational policies in intellectual capital development. First, most studies focus on the general adoption of the technology without explicitly linking AI tools to the enhancement of human, structural, and relational capital. Second, there is a dearth of empirical research examining both faculty and administrators' perceptions of the effectiveness of AI policies, particularly across demographic and professional variables such as gender, qualifications, and years of experience. Third, the majority of previous studies have been conducted in Western contexts, limiting evidence from universities in developing countries where AI integration faces unique challenges. Fourth, few studies address the influencing and mediating factors that influence the relationship between AI policy implementation and intellectual capital growth. Finally, there is a lack of comprehensive frameworks that integrate policy formulation, AI adoption, and knowledge management strategies to provide practical guidance for university administrators and policymakers. These gaps highlight the need for focused research to explore the specific mechanisms through which AI-based education policies can effectively develop intellectual capital in diverse institutional contexts.

The originality of the present study

This study stands out for its originality in several aspects. First, it specifically examines the role of AI-based educational policies in developing intellectual capital, a topic that has received little empirical attention in higher education research. Second, it examines the perceptions of both faculty and administrators, providing a comprehensive understanding of the effectiveness of AI policies across various professional roles. Third, it explores multiple demographic and professional variables, including gender, academic qualifications, nature of work, and years of experience, to determine their impact on AI-based policy outcomes, a topic rarely addressed in previous studies. Fourth, it adopts a quantitative approach that combines statistical analysis with practical implications, providing practical insights for university administrators and policymakers. Finally, it contributes to bridging the gap between AI adoption, educational policy design, and intellectual capital development, thereby providing a framework for sustainable knowledge management and innovation in diverse institutional contexts.

Purpose of the Study

The purpose of the study is to examine the role of educational policies based on artificial intelligence tools in developing intellectual capital, to acknowledge if there are statistical differences due to Gender, academic qualification, Nature of work, Years of Experience.

Research Questions

1. What is educational policies based on artificial intelligence tools role in developing intellectual capital?
2. Are there statistically significant differences at the level of $\alpha \leq 0.05$ between the study sample members' related to educational policies based on artificial intelligence tools role in developing intellectual capital attributable to the following variables: gender, academic qualification, Nature of work, and years of experience?

Hypotheses

The study tests the following null hypotheses at the significance level ($\alpha \leq 0.05$):

H1: There are no statistically significant differences in educational policies based on artificial intelligence tools role in developing intellectual capital due to gender.

H2: There are no statistically significant differences in educational policies based on artificial intelligence tools role in developing intellectual capital due to academic qualification.

H3: There are no statistically significant differences in educational policies based on artificial intelligence tools role in developing intellectual capital due to Nature of work.

H4: There are no statistically significant differences in educational policies based on artificial intelligence tools role in developing intellectual capital due to Years of Experience.

4. Methodology

4.1. Research Design

This study employs a descriptive-correlational design to explore the role of smart planning in education as a creative tool for achieving sustainable development. By combining descriptive and correlational approaches, the study aims to both document current practices and examine potential relationships between the implementation of smart educational strategies and their outcomes on educational quality and sustainability.

4.2. Population and Sample

The study population consisted of all **employees** at Palestine Technical University – Kadoorie during the academic year 2024/2025, totaling 104 employees. Using a stratified random sampling technique, 46 member were selected to ensure representation across gender, academic qualification (Bachelor's degree or less, Bachelor's degree, Master's degree, Doctorate degree), Nature of work (Administrative Staff, Academic Staff), and Years of Experience (Less than 10 years, 10 – 15 years, More than 15 years). This sample size is statistically adequate according to Krejcie and Morgan's (1970) table for determining sample size, providing confidence in the generalizability of the findings

within the institution. Table (1) presents the distribution of the study variables among the sample:

Table 1: Sample descriptive & distribution by demographic variables

Demographic Variables		Frequency
Gender	Male	20
	Female	26
	Total	46
Academic qualification	Bachelor's degree or less	9
	Bachelor's degree	12
	Master's degree	19
	Doctorate degree	6
	Total	46
Nature of work	Administrative Staff	27
	Academic Staff	19
	Total	46
Years of Experience	Less than 10 years	8
	10 – 15 years	15
	More than 15 years	23
	Total	46

4.3. Research Instrument

Data collected using a structured questionnaire designed to measure participants' perceptions, practices, and challenges regarding educational policies based on artificial intelligence tools role in developing intellectual capital. The questionnaire includes Likert-scale items for quantitative analysis, along with a few open-ended questions to capture qualitative insights. Items are adapted from previous studies on artificial intelligence tools role in developing intellectual capital.

4.4. Validity and Reliability

To ensure content validity, the questionnaire was reviewed by experts in educational policies. Construct validity is addressed by aligning items with theoretical frameworks and previous validated instruments. Reliability was assessed by Cronbach's alpha to confirm internal consistency, with a value of 0.84.

4.5. Data Collection and Ethical Considerations

Data collection occurred through electronically distributed questionnaires to ensure convenience and timely responses. Participation is voluntary, and all respondents are informed about the purpose of the study, confidentiality, and anonymity.

4.6. Data Analysis

Quantitative data analyzed using descriptive statistics

(means, standard deviations, frequencies) to summarize the current practices and perceptions. Correlation analysis will examine relationships between educational policies and artificial intelligence in outcomes related to developing intellectual capital. Qualitative responses from open-ended questions will undergo thematic analysis to identify recurring themes, patterns, and insights.

5. Results and Discussion

To determine the role of educational policies based on artificial intelligence tools role in developing intellectual capital, and to interpret the results, the following arithmetic means and percentages were used:

A mean of (1.8–2.59) (or (36–51.9%) indicates a low reality.

A mean of (2.60–3.39) (or (52–67.9%) indicates moderate reality.

A mean of (3.40–4.19) (or (68–83.9%) indicates a high reality.

Results of the First Question

What is educational policies based on artificial intelligence tools role in developing intellectual capital?

To answer this question, the researcher calculated the arithmetic means and standard deviations of the study sample members' estimates of educational policies based on artificial intelligence tools role in developing intellectual capital for each item of the questionnaire and for the total score. Table 2 illustrates this.

Table 2: Means, Std. Dev. and degrees of the items of the questionnaire.

#	Item	Mean	Std. Dev.	reality
23	The institution is preparing for a long-term digital transformation driven by AI.	3.50	1.31	High
8	Academic staff utilize AI systems to enhance teaching and research quality.	3.47	0.92	High
2	AI policies in my institution are clearly defined and communicated to all staff.	3.42	1.24	High
15	AI tools support the creation and sharing of institutional knowledge.	3.42	0.88	High
17	The institution uses AI analytics to evaluate academic and administrative performance.	3.34	1.03	Moderate
24	AI will play a critical role in shaping the future of higher education governance.	3.21	1.26	Moderate
3	Decision-making in education increasingly relies on AI-supported data analysis.	3.08	1.15	Moderate
7	AI tools are used in my department to improve administrative efficiency.	3.03	1.03	Moderate
16	AI-based systems facilitate knowledge storage and retrieval within the university.	3.03	1.07	Moderate
1	University educational policies encourage the integration of AI tools in teaching and management.	2.97	1.08	Moderate
14	The university values intellectual contributions generated through AI-based projects.	2.96	1.19	Moderate
6	The university provides sufficient training for staff to use AI tools effectively.	2.92	1.08	Moderate
10	The institution encourages experimentation with innovative AI-based solutions.	2.89	1.03	Moderate
12	Educational policies based on AI promote continuous professional learning.	2.86	0.98	Moderate
4	Institutional strategies include AI initiatives aligned with educational goals.	2.50	0.99	Moderate
19	AI contributes to developing a culture of continuous improvement and innovation.	2.29	1.03	Moderate
21	The main challenge of adopting AI in education is the lack of technical expertise.	2.29	0.94	Moderate
13	The use of AI helps enhance creativity and innovation among academic staff.	2.26	1.10	Moderate
18	AI enhances collaboration and knowledge exchange between departments.	2.26	1.16	Moderate
25	Developing intellectual capital through AI is key to achieving sustainable university growth.	2.11	1.14	Moderate
22	Ethical considerations limit the full integration of AI in educational policies.	2.05	0.95	Moderate
9	The university's infrastructure supports the smooth application of AI technologies.	2.01	1.18	Moderate
20	Decision-makers rely on AI insights to update policies and strategies effectively.	1.97	1.10	Moderate
11	AI applications contribute to developing employees' digital competencies.	1.78	0.97	Moderate
5	AI policy development in the university is guided by ethical and regulatory frameworks.	1.70	1.06	Moderate
	Total	2.69	0.11	Moderate

The result in table (2) shows that educational policies based on artificial intelligence tools role in developing intellectual capital was at a Moderate level, as the arithmetic mean of the total score was (2.69) over/out of (5) with a standard deviation of (0.11).

Results of the Second Question

Are there statistically significant differences at the level of $\alpha \leq 0.05$ between the study sample members related to educational policies based on artificial intelligence tools role in developing intellectual capital attributable to the following variables: gender, academic qualification, Nature of work, and years of experience?

To answer the second question, the researcher examined the resulting null hypotheses, as follows:

Results of the first hypothesis

There are no statistically significant differences in educational policies based on artificial intelligence tools role in developing intellectual capital due to gender.

To test the first null hypothesis, the researcher used an independent samples t-test to find differences between the average estimates of the study sample members for educational policies based on artificial intelligence tools role in developing intellectual capital due to gender variable. Table (3) illustrates this.

Table 3: Results of the independent t-test for gender variable.

gender	Mean	Std. Dev.	T- State	Sig.
male	2.77	0.36	1.64	0.10
female	2.64	0.30		

The results in table (3) show that the level of significance for the differences in participant's responses related to educational policies based on artificial intelligence tools role in developing intellectual capital due to gender is (0.10) this means that there are no statistically significant differences at ($\alpha < 0.05$), Thus, the hypothesis is accepted.

Results Related to the Second Hypothesis:

There are no statistically significant differences in educational policies based on artificial intelligence tools role in developing intellectual capital due to academic qualification.

To test this hypothesis, the researcher used one-way ANOVA- test, table (4) shows: The results of one-way ANOVA- test for the differences in participant's responses related to educational policies based on artificial intelligence tools role in developing intellectual capital due to academic qualification.

Table 4: The results of ANOVA- test for academic qualification variable.

Academic Qualification	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.01	1	0.00	0.03	0.99
Within Groups	8.14	44	0.11		
Total	8.15	45			

The results in this table (4) show that the level of significance for the differences in the participant's responses related to educational policies based on artificial intelligence tools role in developing intellectual capital due to academic qualification is (0.99) this means that there are no statistically significance differences at ($\alpha < 0.05$). Thus, the hypothesis accepted.

Results Related to the Third Hypothesis:

There are no statistically significant differences in educational policies based on artificial intelligence tools role in developing intellectual capital due to Nature of work.

To test this hypothesis, the researcher used independent t-test as table (5) shows: The results of independent t-test for the differences in participant's responses related to educational policies based on artificial intelligence tools role in developing intellectual capital due to Nature of work.

Table 5: Results of the independent t-test for Nature of work variable.

Nature of work	Mean	Std. Dev.	t-state	Sig.
Administrative Staff	2.69	0.35	0.129	0.89
Academic Staff	2.68	0.31		

The results in table (5) show that the level of significance for the differences in participant's responses related to educational policies based on artificial intelligence tools role in developing intellectual capital due to Nature of work is (0.89) this means that there are no statistically significant differences at ($\alpha < 0.05$) Thus, the hypothesis is accepted.

Results related to the Forth Hypothesis:

There are no statistically significant differences in educational policies based on artificial intelligence tools role in developing intellectual capital due to Years of Experience. To test this hypothesis, the researcher used one-way ANOVA- test, table (8) shows: The results of one-way ANOVA- test for the differences in participant's responses related to educational policies based on artificial intelligence tools role in developing intellectual capital due to Years of Experience.

Table 6: The results of ANOVA- test for Years of Experience variable.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.22	1	0.11	1.01	0.36
Within Groups	7.93	44	0.10		
Total	8.152	45			

The Results in table (8) show that the level of significance for the differences in responses related to related to educational policies based on artificial intelligence tools role in developing intellectual capital due to Years of Experience (0.36) this means that there are statistically significance differences at ($\alpha < 0.05$). Thus, the hypothesis accepted.

Conclusion

The study results showed that educational policies based on artificial intelligence tools role in developing intellectual capital was Moderate, with a mean of (2.69) over/out of (5). The result also revealed that there were no statistically significant differences due to gender, academic qualification,

Nature of work, and years of experience.

Dissection of the Results

The Researcher Attributed the Moderate Role of Educational Policies based on Artificial Intelligence Tools in Developing Intellectual Capital to the following:

1. Limited integration of AI technologies within educational institutions, as their use is limited to administrative or technical tasks rather than comprehensive strategic planning.
2. Lack of awareness and training among faculty and administrators regarding the potential of AI tools to enhance knowledge management and innovation processes.
3. Lack of institutional infrastructure to support the systematic application of AI in educational policies, such as data analytics systems and digital transformation strategies.
4. Resistance to change among some faculty members, who may view AI tools as a threat to traditional administrative and academic roles.
5. Inadequate policy frameworks that explicitly link the application of AI to the development of intellectual capital components, such as human, structural, and relational capital.
6. Limited financial investment in AI-based professional development initiatives and programs that enhance staff capabilities in digital innovation.
7. Lack of consistent evaluation mechanisms to measure the actual impact of AI-based educational policies on organizational learning and knowledge production.
8. The need for stronger leadership support and alignment of vision to integrate AI policies with institutional goals related to intellectual capital growth.

The Researcher Attributed that there were no Statistically Significant differences with Educational Policies based on Artificial Intelligence Tools Role in Developing Intellectual Capital due to Gender Variable to the following:

1. Equal access to digital resources and AI tools among male and female university staff, reducing gender disparities in exposure and use.
2. Institutional focus on inclusivity and professional equality, ensuring that both genders have equal opportunities for training and capacity building in AI.
3. The nature of administrative and academic roles in higher education, which often require male and female staff to engage in similar digital and intellectual tasks.
4. Gender-neutral institutional policies that encourage the use of AI tools based on function rather than gender, promoting equal participation in digital transformation initiatives.
5. Raising gender awareness of the importance of AI in improving decision-making and enhancing intellectual performance in educational settings.
6. Reducing cultural or social barriers in the academic context that may limit gender participation in technology-based educational policies.
7. Equal participation in policy-making committees and innovation projects, providing balanced input from male and female perspectives.
8. Shifting towards merit-based systems in universities,

where advancement and access to AI-related roles are based on competence and experience, not gender.

The Researcher Attributed that there were no Statistically Significant differences with Educational Policies based on Artificial Intelligence Tools Role in developing Intellectual Capital due to Academic Qualification Variable to the following:

1. Unified institutional policies and strategies regarding the adoption of AI tools in administrative and academic practices, applied equally to employees regardless of their academic qualifications.
2. Equal access to professional development programs that train employees on AI applications and digital transformation, reducing disparities across qualification levels.
3. The practical nature of AI-based educational policies, focusing on the application of skills and innovation rather than theoretical academic background.
4. Collaboration and teamwork across levels within universities, where individuals with different qualifications share the same AI-based systems and platforms.
5. Equal access to technological resources and digital infrastructure, ensuring that all employees, regardless of their qualifications, are able to effectively use AI tools.
6. Institutional emphasis on continuous learning and performance-based assessment rather than qualification-based privileges in AI-related practices.
7. Increasing standardization of digital competency standards across all academic levels, ensuring a uniform understanding of the role of AI policies among employees.
8. The general shift towards practical digital competence in universities, where the effectiveness of using AI tools depends more on training and motivation than on academic degrees.

The Researcher Attributed that there were no Statistically Significant differences with Educational Policies based on Artificial Intelligence Tools Role in developing Intellectual Capital due to Nature of Work Variable to the following:

1. Uniform institutional policies applied equally across administrative and academic roles, ensuring equal access and interaction with AI tools.
2. Uniform training programs offered to all employees, regardless of their job type, reducing disparities in AI skills.
3. Equal responsibilities in AI-related initiatives, with both administrative and academic staff participating in decision-making and policy implementation.
4. An institutional focus on collaboration, making AI tools accessible and appropriate for all roles, not limited to specific job types.
5. A focus on digital culture and competency, which is essential for all employees regardless of the nature of their work.
6. Equal encouragement of innovation across departments, promoting AI adoption regardless of the nature of work.
7. Uniform performance evaluations, linking AI engagement and intellectual capital outcomes equally across roles.

8. An institutional culture that prioritizes skills and contribution over job category, reducing disparities related to the nature of work.

The Researcher Attributed that there were no Statistically Significant differences with Educational Policies based on Artificial Intelligence Tools Role in developing Intellectual Capital due to years of Experience Variable to the following:

1. Comprehensive training programs that ensure access to AI tools and digital learning resources for both experienced and new employees.
2. A focus on continuous professional development, which balances the impact of experience by providing all employees with the latest AI knowledge.
3. Equal participation in AI initiatives, where participation is based on role and interest rather than tenure.
4. Corporate policies that focus on competency rather than seniority, ensuring that AI-based intellectual capital development is accessible to all employees.
5. Shared digital infrastructure and resources, providing equal opportunities for engagement in AI regardless of experience.
6. Mentoring and peer collaboration, where experienced employees support newcomers to AI applications, reducing experience gaps.
7. A corporate culture that promotes learning flexibility and ensures that all employees adapt to AI technologies equally.
8. Performance evaluations based on results, not years of experience, resulting in a fair appreciation of contributions to intellectual capital.

Limitations of the study

The current study has the following limitations:

1. **Temporal Limit:** The study was conducted during the 2024-2025 academic year.
2. **Spatial Limit:** Palestine Technical University (PTUK), Ramallah prance.
3. **Human Limit:** All facility members at the university.
4. **Objective Limit:** This study analyzes educational policies based on artificial intelligence tools role in developing intellectual capital.

Recommendations

In light of the results, the researcher recommended the following:

1. Promote AI awareness programs for all employees to ensure a unified understanding of AI tools, regardless of demographic or professional background.
2. Develop ongoing professional development initiatives focused on AI skills, targeting both academic and administrative staff.
3. Unify AI implementation policies across all departments to maintain consistency in promoting intellectual capital development.
4. Encourage collaborative AI projects that include employees of various roles and experience levels to promote knowledge sharing.
5. Invest in digital infrastructure that supports AI applications equally for all employees, ensuring access is not restricted by position or experience.
6. Integrate AI knowledge into the corporate culture to promote acceptance and effective use of AI tools among

all employees.

7. Regularly monitor and evaluate AI initiatives to ensure the effectiveness of policies in promoting intellectual capital development.
8. Promote ethical and inclusive AI practices to ensure equal opportunities for all employees to contribute to knowledge creation.

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