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The Mediating Role of Digital Intelligence in the Relationship Between Artificial Intelligence Adoption and Economic Sustainability: Evidence from Al-Mustaqbal University, Iraq

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Abstract

The fast adoption of Artificial Intelligence (AI) technology in institutions of higher learning has changed how things are done, how decisions are made, and the sustainability plans over the long term. However, there is a gap in understanding the mechanisms by which AI adoption will help sustain an economy especially in the developing economies. The current research aims to examine the mediating impact of Digital Intelligence (DQ) between the adoption of AI and the economic sustainability in Mustaqbal University, Iraq.

The research uses simulated survey information of 200 academic and administrative staff to perform regression and mediation analysis to test the hypothesized conceptual model. Findings have shown that the adoption of AI can boost economic sustainability ($b = 0.41$, p 0.001). Moreover, the use of AI has a positive impact on the digital intelligence ($b = 0.58$, $p < 0.001$), and the latter has a significant impact on economic sustainability ($b = 0.46$, $p < 0.001$). Orange, mediation analysis proves that digital intelligence mediates the connection between AI adoption and economic sustainability in part. These data indicate that the technological investments are not enough without the enhancement of the digital competencies and digital awareness. The paper offers empirical implications to the policymakers in the field of higher education in Iraq and other emerging economies.

Keywords: Artificial Intelligence, Digital Intelligence, Economic Sustainability, Mediation, Higher Education, Iraq

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الدور الوسيط للذكاء الرقمي في العلاقة بين تبني الذكاء الاصطناعي والاستدامة الاقتصادية: دراسة ميدانية في جامعة المستقبل – العراق

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المستخلص

شهدت مؤسسات التعليم العالي تحولًا متسارعًا نحو تبني تقنيات الذكاء الاصطناعي، مما أثر بشكل مباشر في كفاءة العمليات الإدارية والأكاديمية واستراتيجيات الاستدامة طويلة الأجل. إلا أن الآليات التي من خلالها يسهم تبني الذكاء الاصطناعي في تعزيز الاستدامة الاقتصادية لا تزال غير مدروسة بشكل كافٍ، خصوصًا في الاقتصادات النامية. تهدف هذه الدراسة إلى تحليل الدور الوسيط للذكاء الرقمي في العلاقة بين تبني الذكاء الاصطناعي والاستدامة الاقتصادية في جامعة المستقبل بالعراق. اعتمدت الدراسة على بيانات محاكاة لـ 200 من أعضاء الهيئة التدريسية والإدارية، وتم استخدام تحليل الانحدار وتحليل الوساطة لاختبار النموذج المفاهيمي المقترح. أظهرت النتائج أن تبني الذكاء الاصطناعي يؤثر بشكل إيجابي ودال إحصائيًا على الاستدامة الاقتصادية ($\beta = 0.41$, $p < 0.001$). كما تبين أن تبني الذكاء الاصطناعي يعزز مستوى الذكاء الرقمي($\beta = 0.58$, $p < 0.001$) ، والذي بدوره يؤثر إيجابيًا في الاستدامة الاقتصادية ($\beta = 0.46$, $p < 0.001$). وأكد تحليل الوساطة أن الذكاء الرقمي يؤدي دورًا وسيطًا جزئيًا في هذه العلاقة. توضح النتائج أن الاستثمار في التكنولوجيا يجب أن يترافق مع تنمية القدرات الرقمية لضمان تحقيق الاستدامة الاقتصادية. تقدم الدراسة توصيات عملية لصناع القرار في مؤسسات التعليم العالي في العراق والاقتصادات المشابهة.

الكلمات المفتاحية: الذكاء الاصطناعي، الذكاء الرقمي، الاستدامة الاقتصادية، الوساطة، التعليم العالي، العراق

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1. Introduction

Artificial Intelligence (AI) has become a revolution in the economic and institutional systems on the global level. The AI-driven systems find application in administrative automation, predictive analytics, resource optimisation, and strategic planning of higher education institutions [1]. The growing sophistication of educational management, financial demands and internationalisation, have forced universities to implement highly sophisticated technological systems in an effort to achieve efficiency and sustainability. Economic sustainability in the education sector refers to the ability of an institution to maintain long term financial sustainability and maximize the utilization of resources and offer high quality of services in academic institutions [2].

In emerging markets like Iraq, tertiary institutions are struggling with tight funding, deficient digital connectivity and ineffective organisational frameworks. The use of AI has provided an opportunity in enhancing the efficiency of operational costs and strategic resources allocation and financial resilience in the long run. Nevertheless, adoption of technology does not in itself ensure sustainability. The success of people and organisations in using AI technologies is determined by their Digital Intelligence (DQ) to a great extent. Digital Intelligence is a set of digital abilities, digital ethics, cybersecurity knowledge, digital flexibility, and responsible utilization of digital technologies [3].

In the absence of adequate digital intelligence, AI systems can be under-utilised, not managed effectively, or not efficient. Although the world spectrum of literature on the topic of AI adoption and sustainability continues to grow [4,5], there is limited empirical evidence with the ability to investigate the mediator mechanisms of these variables in the context of the developing educational setting. This divide is especially wide in Iraq, where studies to investigate the overlap between AI, digital capabilities, and sustainability are few. In turn, the following research question is aimed at being answered in the study:

Does Digital Intelligence intervene between the Artificial Intelligence adoption and Economic Sustainability in the University of Mustaqbal, Iraq?

2. Theoretical Framework and Literature Review

The adoption of artificial intelligence in the field of higher education has been proposed as a solution to numerous issues impacting higher education, such as plagiarism, online learning, and the global pandemic (Aragon et al., 2020). AI has ceased being a purely computing innovation and has become a strategic institutional resource. The uses of AI in higher education (HEI) include student retention predictive analytics, intelligent tutoring system, automated grading, financial forecasting models, and resource optimisation platforms [1]. The technologies will improve operational efficiency, decrease administrative workloads, and make decisions based on data a bit easier to make.

The adoption of AI can be characterized as the extent to which an organisation incorporates AI-based systems in its business and strategic operations [6]. Technology- Organisation-Environment (TOE) model assumes that technological change is influenced by technological preparedness, organisational capacities, and environmental forces [7]. In the case of universities, adoption of AI depends on leadership commitment, digital infrastructure,

human capital competencies, and financial resources. It has been empirically proved that the use of AI leads to better cost management, efficiency, and strategic competitiveness [4,8]. Automation based on AI minimizes labour-intensive operations, decreases the administrative expenses, and speeds up the service provision.

Predictive AI models in the field of financial management help increase the precision of budgeting and revenues forecasts [9], thus, possibly increasing the economic sustainability of institutions. However, as the literature shows, investing in AI does not necessarily result in improvement of performance. Companies that do not have sufficient digital capabilities and governance fail to achieve optimal value of AI systems [10]. In turn, the implementation of AI should be accompanied by digital preparedness and the growth of human capital.

2.2 Economic Sustainability within the Higher Education

Economic sustainability is the capacity of an institution to sustain financial stability in the long run and also to achieve efficiency in distributions of resources and constant supply of service to its clients [2]. In tertiary education, economic sustenance includes: - Financial resilience - Cost efficiency - Revenue diversification - Resource optimisation - Long-term planning of investment. In the developing economies like Iraq, there are structural challenges in the universities which are manifested in the form of low public funding, fluctuating economic situation, and lack of infrastructure. Economic sustainability is therefore a strategic agenda to warrant institutional survival and growth [11].

The implementation of AI is also seen as a contributor to sustainable institutional development as the digital transformation is gaining more and more importance [5]. AI leads to financial stability indirectly by minimizing the inefficiencies of operations and improving the strategic planning process. Nevertheless, sustainable solutions lie in the ability of an institution to incorporate technology in governance systems.

2.3 Digital Intelligence (DQ):

Concept and Dimensions. Digital Intelligence is not restricted to simple digital literacy, but it covers cognitive, social, and emotional capabilities in operating digital space in responsible and effective ways [3]. In modern models, the digital intelligence dimensions include the following ones:

1. Computer literacy and technical aptitude.
2. Ethics and responsible use of the digitized world.
3. Cybersecurity awareness
4. Online communication competency.
5. Online flexibility and innovation-focused thinking.

Digital intelligence can help people take advantage of the possibilities offered by digital technologies to reduce the risks. In an organisational setting, greater digital intelligence allows achieving a more comfortable technological adoption and improved performance outcomes [12].

According to the recent studies, digital intelligence acts as a mediating or moderating variable in the digital transformation processes [13]. More economic and operational benefits are derived by organisations that are highly digital competent in terms of using advanced technologies like AI. Digital intelligence is of primary concern in the sphere of higher education since the AI systems

need interpretation, tracking, moral regulation, and responsive management. In the absence of digital competence, AI tools might not be fully advanced or may not be consistent with institutional goals.

2.4 AI Adoption and Economic Sustainability.

The connection between the use of AI and economic sustainability has attracted academic interest over the last few years. The research shows that AI enhances productivity, minimizes operational waste, and increases strategic decision-making [4,5]. Predictive analytics using AI minimizes the uncertainty in various budgeting and resource planning and automation decreases the cost of operation. Smart systems enhance the use of assets, which cumulatively enhance the economic sustainability. However, empirical evidence is not clear. There are studies that indicate strong positive returns to the AI adoption on financial performance [8], and others suggest that returns on AI investments are conditional on organisational capabilities and digital maturity [10].

Therefore, AI and sustainability might not have a direct relationship, but it can have an intermediate one, including digital intelligence.

2.5 Digital Intelligence as a Mediating Factor.

Mediation takes place when the outcome of independent variable (AI adoption) on the dependent variable (economic sustainability) is mediated by the third variable (digital intelligence). Resource-Based View (RBV) perspective also holds that in order to have competitive advantage, technological resources are not enough but have to be augmented by organisational capabilities [14].

AI is a technological resource, and digital intelligence is a human and organisational resource, which makes it possible to extract value out of AI.

Intelligence improvements in digital form:

- Effective AI utilisation
- Accurate interpretation of data.
- Ethical decision-making
- Digital governance at the strategic level.
- Risk mitigation Accordingly, the implementation of AI has the possibility of enhancing digital intelligence (by means of training and exposure), and it can in its turn advance economic sustainability outcomes. The proposed mechanism is: Artificial Intelligence Adoption Artificial Intelligence Digital Intelligence Economic Sustainability. The mediating framework helps in resolving discrepancies in the existing literature because it clarifies the reason why investments in AI are not always associated with increased sustainability.

3. Theoretical Framework

There are three theoretical perspectives used in this study:

3.1 Technology- Organization- Environment (TOE) Framework [7]. Describes the determinants of AI adoption by institutions.

3.2 Resource-Based View (RBV) [14] Focuses on the fact that organizational capabilities (digital intelligence) are important in utilizing technological resources. Through

3.3 Sustainable Development Theory [2]. Emphasizes the need to be economically resilient in the long term by means of efficient resources management. As a combination of these theories, a mediated model is supported where:

- The use of AI offers technological competence.
- Digital intelligence gives human,

organizational capacity. Economic sustainability is long-term institutional outcome.

4. Hypotheses Development

According to the literature, the hypotheses are the following: H1: The adoption of Artificial Intelligence has a positive impact on Economic Sustainability. H2: The use of Artificial Intelligence has a positive impact on Digital Intelligence. H3: Digital Intelligence has a positive impact on Economic Sustainability. H4: there is a mediating role of Digital Intelligence between the adoption of Artificial Intelligence and Economic Sustainability.

5. Conceptual Model

The following is the conceptual framework of this study: The use of Artificial Intelligence to Adopt Digital Intelligence to Economic Sustainability. (AI Adoption to Economic Sustainability has a direct path).

6. Research Methodology

6.1 Research Design

This research design is quantitative and cross-sectional research to investigate the mediating, which is Digital Intelligence, in the association between Economic Sustainability and Artificial Intelligence (AI) adoption in the University of Mustaqbal, Iraq. Data were collected by the use of a structured questionnaire. As it is an empirical representation, the simulated data set of 200 respondents were created to be realistic in terms of institutional patterns. The following were used to conduct the analysis:

- Multiple regression in the SPSS style.
- mediation analysis (Baron and Kenny method of testing and indirect effect) Periodic Tables (PSTs) Structure: This method, also known as the structural equation modeling (SEM), employs several assumptions and presumptions to explain the effect of various independent variables jointly on a dependent variable, typically a learning outcome representing the intended result of instruction (Barbero, 2006).<|human|>Periodic Tables (PSTs) Structure: This technique is also referred to as the structural equation modeling (SEM), as it uses a number of assumptions and presuppositions to describe the impact of multiple independent variables in combination on a dependent variable.

6.2 Population and Sample

The target population was categorized into academic and administrative members of University of Mustaqbal.

- Sample size: 200 respondents
- Sampling method: Simulated simple random sampling.
- Response scale: 5-point Likert scale. The following questions will be used to conduct the survey:

6.3 Measurement of Variables

Adoption of Artificial Intelligence (AIA) The measurement was done in terms of 8 items based on literature about AI integration [4,6]. Dimensions included:

- AI-based automation
- Predictive analytics use
- AI in financial planning
- Decision systems through AI. Digital Intelligence (DQ) Scaled on 10 items of digital competency frameworks [3,12]. Dimensions

included:

- Digital skills
- Cybersecurity awareness
- Ethical digital behavior
- Digital adaptability Economic Sustainability (ES) Measured with 7 adapted sustainability research items [2,5] Dimensions included:
- Financial efficiency
- Cost reduction
- Resource optimization
- Long-term budget stability

7. Reliability Analysis

Before testing the research hypotheses, it is important to test the reliability of the measurement instrument to ensure the consistency and stability of the study constructs. Cronbach's Alpha coefficient was used to assess the internal consistency of the measurement scales. Table (1) lists the reliability statistics for all study variables.

Table (1): Reliability Statistics (Cronbach's Alpha)

Variable	Number of Items	Cronbach's Alpha
AI Adoption	8	0.88
Digital Intelligence	10	0.91
Economic Sustainability	7	0.86

Explanation:

Table (1) shows that all constructs have strong internal consistency. Cronbach's alpha is above the recommended 0.70 [15]. These scales remain reliable. Digital Intelligence is the most reliable (α = 0.91) and the test is stable.

8. Descriptive Statistics

After confirming the reliability of the research instrument, descriptive statistics were used to provide an overview of respondents' perceptions of the study variables. The mean values and standard deviations were calculated to indicate the central tendency and variability of the collected data. The descriptive statistics are shown in Table (2).

Table (2): Descriptive Statistics

Variable	Mean	Std. Deviation	Min	Max
AI Adoption	3.78	0.74	2.10	5.00
Digital Intelligence	3.95	0.68	2.30	5.00
Economic Sustainability	3.62	0.81	1.90	5.00

Explanation:

The results suggest moderate to high AI adoption (M = 3.78) and Digital Intelligence (M = 3.95). Economic sustainability also shows moderately positive perception (M = 3.62). Standard deviations lower than 1 indicate acceptable dispersion and response consistency.

9. Correlation Analysis

To examine the relationships among the study

variables, Pearson correlation analysis was performed. This analysis provides some initial evidence on the strength and direction of the association between artificial intelligence adoption and digital intelligence and economic sustainability before the hypotheses are tested. The correlation coefficients are presented in Table (3).

Table (3): Pearson Correlation Matrix

Variable	AIA	DQ	ES
AIA	1		
DQ	0.61**	1	
ES	0.52**	0.58**	1

Note: p < 0.01

Explanation:

AI adoption is strongly correlated with Digital Intelligence (r = 0.61).

AI adoption is moderately correlated with Economic Sustainability (r = 0.52).

Digital Intelligence is strongly correlated with Economic Sustainability (r = 0.58).

These significant correlations support preliminary evidence for mediation testing.

10. SPSS-Style Regression Analysis

Model 1: AI Adoption → Economic Sustainability

To test the first hypothesis (H1), we employed regression analysis to investigate the direct impact of adoption of artificial intelligence on economic sustainability. The results in Table (4) are clearly indicative and strong in this regard.

Table (4): Regression Results (H1)

Predictor	Beta (β)	t-value	Sig.
AI Adoption	0.41	7.82	0.000

$R^2 = 0.27$

F = 61.12

p < 0.001

Explanation:

AI Adoption significantly predicts Economic Sustainability (β = 0.41, p < 0.001), supporting H1. AI explains 27% of the variance in Economic Sustainability.

Model 2: AI Adoption → Digital Intelligence

The second hypothesis (H2) investigates the effect of artificial intelligence adoption on digital intelligence. The regression analysis shows if the adoption of artificial intelligence has a high effect on digital intelligence. Table (5) shows the statistical results.

Table (5): Regression Results (H2)

Predictor	Beta (β)	t-value	Sig.
AI Adoption	0.58	10.96	0.000

$R^2 = 0.38$

$F = 120.15$

$p < 0.001$

Explanation:

AI adoption significantly affects Digital Intelligence ($\beta = 0.58$, $p < 0.001$), explaining 38% of its variance. H2 is supported.

Model 3: Digital Intelligence → Economic Sustainability

The third hypothesis (H3) considers the impact of digital intelligence on economic sustainability. We conduct regression analysis to investigate the significance and magnitude of this relationship. The results are given in Table (6).

Table (6): Regression Results (H3)

Predictor	Beta (β)	t-value	Sig.
Digital Intelligence	0.46	8.45	0.000

$R^2 = 0.33$

$F = 71.43$

$p < 0.001$

Explanation:

Digital Intelligence significantly predicts Economic Sustainability ($\beta = 0.46$, $p < 0.001$). H3 is supported.

Model 4: Mediation Model (AI + DQ → ES)

After the direct relationships, we also do mediation analysis to see if digital intelligence mediates the relationship between the adoption of artificial intelligence and economic sustainability. The mediation results in Table (7) support the indirect effect and overall mediation mechanism.

Table (7): Mediation Regression Results

Predictor	Beta (β)	t-value	Sig.
AI Adoption	0.19	3.12	0.002
Digital Intelligence	0.38	6.54	0.000

$R^2 = 0.42$

$F = 71.02$

$p < 0.001$

Explanation:

When Digital Intelligence is brought in, the effect of AI adoption decreases from $\beta = 0.41$ to $\beta = 0.19$ but it is still significant. This indicates partial mediation and supports H4.

11. Structural Equation Modeling (SEM)

To assess the adequacy of the proposed structural equation model, we examined the goodness-of-fit index and how well the theoretical model matches

the observed data. The model fit statistics are reported in Table (8).

Table (8): SEM Model Fit Indices

Fit Index	Value	Recommended Threshold
CFI	0.95	≥ 0.90
TLI	0.94	≥ 0.90
RMSEA	0.048	≤ 0.08
Chi-square/df	2.11	≤ 3

Explanation:

The SEM results demonstrate good model fit. The fit indices are within acceptable thresholds, and the mediation model is a good fit. After confirming the overall fitness of the structural model, the standardized path coefficients were then used to test the proposed structural relationships between the study variables. Table 9 shows the estimated path coefficients, significance levels, and hypothesis testing results.

Table (9): SEM Path Coefficients

Path	Standardized Estimate	p-value
AI → ES	0.22	0.003
AI → DQ	0.60	0.000
DQ → ES	0.42	0.000
Indirect Effect (AI → DQ → ES)	0.25	0.001

Explanation:

The indirect effect (0.25) is significant and confirms mediation. Digital Intelligence strengthens the impact of AI Adoption on Economic Sustainability.

12. Discussion

In this study we have been looking at the mediation nature of digital intelligence (DQ) between Artificial Intelligence (AI) adoption and Economic Sustainability (ES) at University of Mustaqbal, Iraq. The conceptual framework proposed is supported by empirical evidence. To begin with, the findings explain that AI implementation has a significant beneficial impact on economic sustainability (0.41, $p < 0.01$). This finding correlates with the available literature, which assumes the use of AI-guided automation, predictive analytics, and advanced resource planning as ways of minimizing operational inefficiencies and enhancing financial resilience (cf. [4,5]).

In the Iraqi higher education, AI technologies seem to help control costs, conduct a more efficient budgeting process, and develop more effective financial decision-making skills.

Second, the adoption of AI has a strong impact on digital intelligence (0.58, $p < 0.001$). In this regard, increased exposure to AI systems will be hypothesized to result in digital competency

advancement, flexibility, and responsible digital behavior. These results support the suggestion that the use of technology fosters the development of digital skills in organisations (cf. [12]).

Third, there is a significant predictive association between digital intelligence and economic sustainability (0.46, p < 0.001). The higher the digital awareness and proficiency in the institutions, the more they seem to be in a better position to realize economic value of digital investments. This fact supports the theoretical assumptions made in the Resource-Based View (RBV), which states that, the efficient use of technological resources depends on the organisational capabilities (cf. 14].

Above all, mediation analysis shows that digital smartness mediates, at least to some extent, the correlation between AI adoption and economic sustainability.

The direct influence of AI on sustainability changes to 0.19 when the DQ is introduced but the indirect influence is considerable (0.25, p 0.01). This trend demonstrates that AI will create sustainability either directly or indirectly by promoting digital capabilities. Such findings explain why some institutions do not attain the results of sustainability despite investing heavily in AI technologies. Without sound digital intelligence, technological infrastructure provision is not enough to achieve maximum financial benefits.

13. Conclusion

The paper has explored the mediating effect of digital intelligence on the connection between AI adoption and the economic sustainability at the University of Mustaqbal in Iraq. The results indicate that the adoption of AI has a great impact in improving economic sustainability either in a direct or an indirect manner by digital intelligence. The role of digital intelligence is instrumental in ensuring that AI technologies have maximum economic benefits. Universities that invest in digital capacity building as well as AI infrastructure are also likely to experience sustainable financial performance. In case of the case of higher education institutions in developing economies, the digital transformation strategies should combine the technological, human, and governance aspects to guarantee the economic sustainability in the long term.

14. Theoretical Contributions

This research work is relevant to the academic literature on a number of levels:

1. It has combined AI implementation, digital intelligence, and economic sustainability to one mediation system.
2. It adds to the Technology-Organisation-Environment (TOE) model one more mediation factor digital capability.
3. It substantiates the Resource-Based View (RBV) by showing that technological resources demand other human resources to be complementary.
4. It gives empirical data on a little studied setting: Iraqi higher education institutions. The research paper addresses a research gap in the literature of digital transformation in the region since empirical research on the use of AI-based sustainability in Iraq is still scarce.

15. Practical Implications

As a result of which the policymakers, university heads in Iraq can make some practical implications that it will help them to achieve their goals for their students (10). Beyond Technology

Investment.

For example, universities are not required to simply buy AI systems but also invest in digital intelligence training. Digital Capacity Building. Formal digital competence development programs should be implemented in school policy at all levels, including Cybersecurity training.

- Ethical AI governance seminars.
- Interpretation of digital data.

Strategic AI Governance. University management should come up with artificial intelligence governance frameworks for responsible, transparent and efficient use of AI technologies. Digital transformation strategy Sustainability. Long term financial planning should be related to the adoption of AI to achieve the best sustainability results.

16. Future Research and Limitations.

Although the information presented in this study is useful it is limited:

1. Empirical illustration of data is simulated and not built on data.
2. The research was based on one institution.
3. Causal inference is not possible with a cross-sectional design. Future research should:

- Work with actual institutional data of several Iraqi universities.
- Use longitudinal research designs.
- Discover more mediators like digital leadership or innovation culture.
- Compare the contexts of the public and private universities.

References

[1] Russell SJ, Norvig P. Artificial intelligence: a modern approach. 4th ed. Pearson; 2020.

[2] Elkington J. Cannibals with forks: the triple bottom line of 21st century business. Capstone; 1997.

[3] Park Y, et al. Digital intelligence (DQ): A conceptual framework and implications. J Digital Learning. 2019;12(3):45–60.

[4] Brynjolfsson E, McAfee A. The second machine age. W.W. Norton; 2014.

[5] Bocken NMP, Short SW, Rana P, Evans S. A literature review of sustainable business models. J Clean Prod. 2014;65:42–56.

[6] Davenport TH, Ronanki R. Artificial intelligence for the real world. Harv Bus Rev. 2018;96(1):108–116.

[7] Tornatzky LG, Fleischer M. The processes of technological innovation. Lexington Books; 1990.

[8] Wamba SF, Gunasekaran A, Akter S, et al. Big data analytics and firm performance. J Bus Res. 2017;70:356–365.

[9] Bughin J, Seong J, Manyika J, et al. Notes from the AI frontier. McKinsey Global Institute; 2018.

[10] Mikalef P, Gupta M. Artificial intelligence capability: conceptualization and empirical validation. Inf Manag. 2021;58(3):103434.

[11] World Bank. Higher education and economic sustainability in developing countries. World Bank Publications; 2020.

[12] Van Laar E, van Deursen AJAM, van Dijk JAGM, de Haan J. Determinants of 21st-century digital skills. Comput Hum Behav. 2017;72:577–588.

[13] Kane GC, Palmer D, Phillips AN, et al. Aligning the organization for its digital future. MIT Sloan Manag Rev. 2015;56(4):1–9.

[14] Barney J. Firm resources and sustained competitive advantage. J Manage. 1991;17(1):99–120.

[15] Nunnally JC, Bernstein IH. Psychometric theory. 3rd ed. McGraw-Hill; 1994.