THE GREEN AND SMART FUTURE OF ACCOUNTING THROUGH ERP AND ARTIFICIAL INTELLIGENCE

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Abstract
The acceleration of digital transformation and the increasing organizational focus on sustainability are driving a new phase in the development of ERP systems, characterized by the integration of artificial intelligence (AI) and functionalities geared towards sustainable performance. In this context, while traditional ERP solutions enable the integration and management of organizational processes, they are becoming insufficient for supporting data-driven decision-making and effectively monitoring sustainability goals.This paper investigates whether the degree of integration of artificial intelligence (AI) into ERP systems, the perceived improvement in decision-making and the intention to expand AI functionalities are associated with users' perception of the contribution of AI-enabled ERP systems to sustainability. The research is based on a quantitative study conducted via a structured questionnaire with closed-ended items, distributed through social media to a convenience sample of 90 ERP users. The data were analyzed through descriptive statistics, Pearson correlations and a multiple linear regression model.
The model explains about 17% of the variance in the perceived contribution of AI to sustainability (adjusted $R^2 = 0.170$). The intention to expand AI functionalities is the only statistically significant predictor ($B = 0.175$, $p = 0.030$), whereas the degree of AI integration ($p = 0.082$) and the perceived improvement of decision-making ($p = 0.156$) are not significant at the 5% level, so the research hypotheses are only partially supported. The findings are exploratory and associative; they suggest that users' openness to extending AI functionalities is linked to a more favorable view of AI's sustainability benefits, which points to the need to adapt ERP systems to evolving technological and environmental requirements.

Keywords
ERP systems, artificial intelligence, accounting, sustainability, ESG reporting, AI adoption, survey, user perceptions.

JEL Classification
M14, M15, M40, M41

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Introduction

The acceleration of digital transformation in recent decades has prompted organizations to rethink how they manage resources, conduct operations, and adapt to an economic landscape characterized by constant change. Within this transformation process, ERP systems have become essential tools for the integrated management of organizational activities. Their evolution has far surpassed their initial role as tools for recording accounting transactions and monitoring inventory, transforming them into complex platforms capable of integrating and supporting diverse, interdependent organizational processes through a wide range of functional modules.

According to research by Abdo-Salloum and Chehade (2026), the use of ERP systems facilitates the automation of financial activities, connects information flows, and enhances transparency across the organization. At the same time, access to integrated information supports faster and more effective decision-making. Consequently, the role of accounting professionals has gradually shifted; they are increasingly focused on analysis, interpretation, and strategic support for decision-making, rather than on strictly operational tasks.

In parallel, growing demands for digitalization and sustainability—driven by the business sector, public institutions, and regulatory bodies alike—have placed new pressures on organizations. The need to respond quickly to economic shifts, use resources efficiently, and base decisions on relevant information has led to both a redefinition of the accounting professional's role and an expansion of the traditional functionalities of ERP systems. In this context, the integration of artificial intelligence (AI) represents a significant avenue of evolution, helping to transform organizations into entities that are smarter, more efficient, and sustainability-oriented.

Against this backdrop, the concept of sustainability is becoming increasingly important in organizational operations. Following the Brundtland Report (World Commission on Environment and Development, 1987), sustainability is understood as development that meets the needs of the present without compromising the ability of future generations to meet their own needs; at the organizational level, Dobhan and Zitzmann (2022) define it as "an organization's ability to conduct its economic activities without compromising the needs of future generations." This perspective entails integrating economic, social, and environmental responsibility into organizational processes. Consequently, governments and regulatory bodies have intensified calls for organizations to reduce their carbon footprint, use resources efficiently, and adopt environmentally and socially responsible practices, all while mitigating the negative impact of economic activities.

In the European Union, this pressure has been formalised through the Corporate Sustainability Reporting Directive (CSRD) (European Parliament and Council, 2022) and the European Sustainability Reporting Standards (ESRS) (European Commission, 2023), which require the companies in scope to report standardised and auditable information on environmental, social and governance (ESG) matters. Although the scope of the CSRD has been narrowed and the simplification of the ESRS is under way through the Omnibus I package (approved by the Council in February 2026), the need for reliable and traceable ESG data remains, and ERP systems, as the main source of transactional and operational data, are central to meeting it.

Integrating artificial intelligence (AI) into ERP system architecture represents a significant avenue for supporting environmental, social, and governance (ESG) objectives. By extending the traditional capabilities of these systems, organizations can benefit from enhanced solutions for collecting, processing, and interpreting non-financial information, as well as for monitoring and reporting sustainability indicators.

A review of the specialized literature reveals that research simultaneously addressing the relationship between artificial intelligence, ERP systems, and sustainability remains limited and fragmented, although there are notable exceptions: Dumitru et al. (2023) analyze the implications of the automation-driven evolution of ERP systems for sustainability accounting and reporting. Most studies examine these concepts in isolation, creating an opportunity to gain deeper insight into how their interaction can influence organizations. Against this backdrop, the objective of this article is to examine, on the basis of a survey of ERP users, whether the degree of AI integration in ERP systems, the perceived improvement of decision-making and the intention to expand AI functionalities are associated with the perception of AI's contribution to sustainability. The research question is: to what extent is the use of AI in ERP systems associated with users' perceptions of its contribution to sustainability?

The contribution of the paper is threefold: (i) it provides exploratory empirical evidence on ERP users' perceptions, complementing previous work such as Dumitru et al. (2023); (ii) it grounds the analysis in the technology adoption literature, distinguishing the current level of AI integration, the perceived usefulness of AI and the intention to expand it; and (iii) it discusses the implications for the accounting profession and for sustainability reporting in the context of the CSRD and the ESRS.

Structurally, the article is organized into several sections. The first part reviews relevant literature and clarifies key concepts and the theoretical framework from which the research hypotheses are derived. Subsequently, the adopted methodology is described, and the results of the data analysis are presented and discussed. The final section summarises the research's main conclusions, highlights its contributions, and discusses the study's limitations as well as potential directions for future research.

1. Review of the scientific literature

The development of integrated ERP systems has led to a considerable expansion of their functionalities, enabling them to address an increasingly broad spectrum of organizational needs. In the context of this evolution, Dobhan and Zitzmann (2022) describe sustainable ERPs as "a holistic solution for supporting sustainability initiatives." By integrating sustainability-oriented functionalities, these systems can support the optimization of production processes, the reduction of energy consumption, and the limitation of carbon emissions, thereby contributing to the environmental performance of organizations (Figure no. 1).

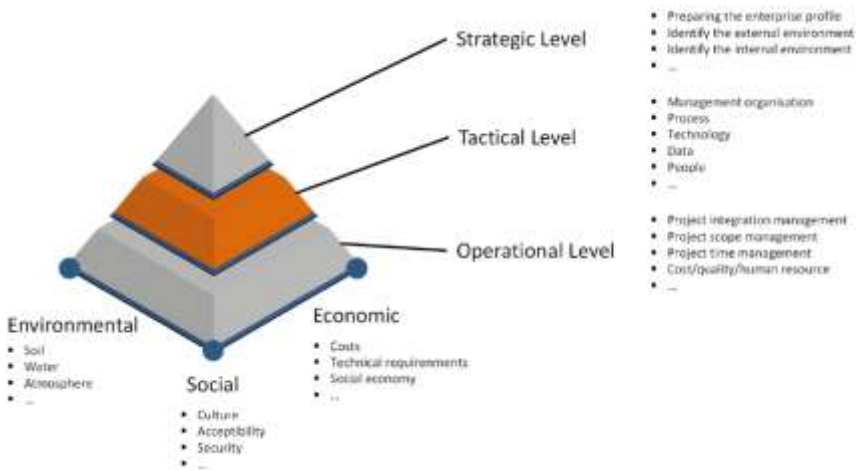


Figure no. 1. S-ERP systems implementation framework
Source: Dobhan and Zitzmann, 2022

The use of artificial intelligence (AI) within ERP systems contributes to streamlining organizational resource management and mitigating risks arising from improper data processing or fragmented workflows (Egbuhuzor et al., 2022). Simultaneously, the development of AI-driven solutions has expanded the possibilities for automating tasks, conducting predictive analytics, and basing decisions on available information (Forbes, 2024). AI's ability to process vast amounts of data rapidly enables more efficient resource utilization and supports the anticipation of market demand trends.

In this context, Laulita et al. (2022) highlight the role of ERP systems in integrating and automating organizational activities, as well as in facilitating information flow across various departments. By incorporating AI components, these systems extend their capabilities—offering tools such as predictive analytics, process automation, and real-time information access—with the potential to transform how organizational operations are conducted (Egbuhuzor et al., 2022).

From a sustainability perspective, integrating AI into ERP systems facilitates the collection, monitoring, and reporting of non-financial performance indicators. Consequently, organizations can more effectively track variables such as energy consumption levels, carbon emissions, and waste management practices with environmental impact. Access to this information aids in both compliance with applicable requirements and regulations and the enhancement of organizational transparency regarding sustainability. An additional avenue for development involves the integration of models such as SIRAI (Sustainable Integration of RPA and AI), which can foster operational efficiency and support decision-making aligned with sustainability principles. According to Patricio et al. (2024), the SIRAI model entails identifying technological needs, assessing the organization's readiness level, adapting evaluation metrics, and formulating practical recommendations for the effective utilization of technologies.

In this context, Table no. 1 summarizes the key analytical tools available to support decision-making within ERP systems:

Table no. 1. Decision-making analytics in ERP systems

Report Type	Data Source	Key Insights Generated	IT integration
Sales performance	CRM, Order data	Trends in sales, customer behaviour	ERP (Sales and CRM modules)
Inventory levels	Inventory data	Stock levels, demand forecasting	ERP (Inventory module)
Financial health	Financial data	Profit margins, cash flow trends	ERP (Finance module)

Source: Kambala, 2024, p. 431

The types of analytics applied by organizations are presented in Table no. 2:

Table no. 2. Type of analytics applied by organizations

Analytics Type	Application	Business Outcome
Real-time analytics	Operational monitoring	Faster decision-making
Predictive analytics	Demand forecasting	Optimized resource allocation
Prescriptive analytics	Strategic planning	Enhanced long-term planning

Source: Kambala, 2024, p. 431

These analytical capabilities (real-time, predictive and prescriptive analytics) are the functional basis for the perceived improvement of decision-making (PROC) that is examined in the empirical part of this study.

Integrating artificial intelligence (AI) into organizational processes can contribute to a more efficient and responsible use of resources, while also supporting decision-making aligned with sustainability goals (Omar et al., 2024).

In this regard, Shaik (2023) highlights several benefits resulting from combining ERP systems with AI-based solutions, including:

* reducing energy consumption and associated costs;
* increasing energy efficiency and strengthening sustainability performance;
* providing real-time information on energy consumption patterns and levels;
* basing decisions on available data to optimize energy usage.

However, while digitalization and technological transformation offer significant advantages for organizations, the expanded use of digital solutions also necessitates rigorous management of information security risks. In this context, technical and procedural vulnerabilities that could affect organizational data must be identified and properly managed through the implementation of advanced cybersecurity measures (Kunduru, 2023).

AI-enabled ERP systems and the accounting profession

At the same time, the literature highlights the role that ERP systems integrated with artificial intelligence capabilities can play in reshaping the accounting profession. Integrating these technologies may have significant effects on accounting and managerial activities (Abdo-Salloum and Chehade, 2026; Kokina and Davenport, 2017; Moll and Yigitbasioglu, 2019), notably:

* automation and streamlining of accounting processes, by minimizing manual intervention and reducing the likelihood of errors, thereby boosting operational efficiency;
* strengthening decision-making support, leveraging the ability of intelligent systems to process both structured and unstructured data, identify patterns, generate estimates and predictions, and provide relevant, real-time information to underpin decisions;
* supporting sustainability goals, through the integration of AI into ERP systems and the use of available data to monitor and optimize energy consumption, manage resources more efficiently, and enhance the traceability of economic processes—factors that can contribute to improved organizational and environmental performance.

However, integrating artificial intelligence into ERP systems also presents a range of challenges for accounting professionals. Key difficulties include:

* the need to develop advanced digital and technological skills, enabling accounting professionals to effectively use and interpret AI-driven solutions;
* managing ethical risks and ensuring algorithmic transparency, particularly regarding how automated recommendations and decisions are generated;
* increasing reliance on complex technological infrastructures, which requires reliable, interoperable, and secure IT systems;
* costs associated with implementing and maintaining technological solutions, as well as the need to adapt organizational culture to new ways of conducting business activities.

Consequently, the integration of AI into ERP systems entails more than just the automation of traditional accounting tasks; it involves a transformation of the accounting professional's role, shifting the focus from the execution and verification of operations toward data analysis, the interpretation of results generated by intelligent systems, and support for strategic decision-making. In this context, developing digital skills and the ability to adapt to new technologies become essential for leveraging AI's potential to create accounting processes that are more efficient, intelligent, and sustainability-oriented.

Theoretical framework and research hypotheses

The relationship between the use of AI in ERP systems and the perceived contribution to sustainability can be framed by the technology adoption literature. The Technology Acceptance Model (TAM) explains the use of information systems through perceived usefulness and behavioral intention (Davis, 1989); the Unified Theory of Acceptance and Use of Technology (UTAUT) adds performance expectancy, effort expectancy, social influence and facilitating conditions (Venkatesh et al., 2003); and the Technology-Organization-Environment (TOE) framework emphasizes the technological, organizational and environmental (including regulatory) factors that influence the

adoption of innovations (Tornatzky and Fleischer, 1990). The environmental dimension is particularly relevant here, since European regulations on sustainability reporting (CSRD and ESRS) increase the demand for reliable ESG data generated by ERP systems. In this study, the variables of the model are mapped onto these frameworks: the degree of AI integration in ERP systems (GRAD) reflects the current level of adoption; the perceived improvement of the decision-making process (PROC) is a measure of perceived usefulness; the intention to expand AI functionalities (EXTEND) corresponds to behavioral intention; and the perceived contribution of AI-enabled ERP systems to sustainability (SUSTAIN) is the outcome of interest. Accordingly, the following hypotheses are formulated:

H1: The degree of AI integration in ERP systems (GRAD) is positively associated with the perception of AI's contribution to sustainability (SUSTAIN).

H2: The perceived improvement of the decision-making process through the use of AI (PROC) is positively associated with the perception of AI's contribution to sustainability (SUSTAIN).

H3: The intention to expand AI functionalities in ERP systems (EXTEND) is positively associated with the perception of AI's contribution to sustainability (SUSTAIN).

Since EXTEND and SUSTAIN are attitudes expressed by the same respondent at the same time, the relationship between them may be bidirectional (for example, users who believe that AI supports sustainability may also be more willing to extend it); the hypotheses are therefore formulated and tested as associations, not as causal effects.

2. Research methodology

The research presented in this article aims to examine the perceptions of employees, managers, and students regarding the integration of artificial intelligence (AI) into ERP systems and its potential to transform managerial practices. Specifically, the study seeks to determine the extent to which the degree of AI usage in ERP systems, the perceived improvement of decision-making and the intention to expand AI functionalities are associated with users' perception of the contribution of AI-enabled ERP systems to sustainability.

To achieve the stated objectives, a quantitative study was conducted using a structured, self-administered online questionnaire distributed between April 28, 2025, and April 30, 2026, via social media platforms such as Facebook and LinkedIn, using a non-probability convenience sampling approach. The questionnaire targeted individuals from various fields of activity working in organizations that utilize ERP systems The questionnaire focused on respondents' use of AI functionalities in their ERP systems and on their perceptions regarding the improvement of decision-making, the intention to expand AI functionalities and the contribution of AI-enabled ERP systems to sustainability. All the items are closed-ended, so the study is purely quantitative; the full questionnaire is presented in the Appendix.

The final research sample consisted of 90 respondents, the distribution of whom is presented in Table no. 3:

Table no. 3. Respondents distributed by age, gender and residence

Age & gender	Inside Romania	Inside Europe	Outside Europe	Total
20 - 30	**65**	**1**	**0**	**66**
Male	17	0	0	17
Female	48	1	0	49
31 - 40	**7**	**2**	**0**	**9**
Male	4	1	0	5
Female	3	1	0	4
41 - 50	**6**	**4**	**1**	**11**
Male	2	0	1	3
Female	4	4	0	8
51 - 60	**1**	**1**	**2**	**4**
Male	0	1	1	2
Female	1	0	1	2
TOTAL	**79**	**8**	**3**	**90**

Source: *Author's contribution, 2026*

The sample is a convenience sample and is dominated by young respondents: 66 of the 90 respondents (73.3%) are aged 20-30, 63 (70.0%) are women and 79 (87.8%) reside in Romania. It therefore cannot be considered representative of ERP users in general, and the results should be interpreted as exploratory.

The data obtained from the questionnaire were processed and analyzed using Excel and SPSS software, with the analysis process involving several successive stages. In the first stage, the completeness and consistency of the dataset were verified, followed by the coding of variables and the conversion of text-based responses into numerical values to facilitate statistical analysis. Subsequently, descriptive statistical indicators—such as the mean and standard deviation—were calculated for each analyzed variable. In the final stage, the relationships between the variables were investigated through Pearson correlations and through the regression models proposed by the authors, and the research hypotheses were tested.

To analyze the relationship between the use of artificial intelligence and sustainability, the three hypotheses (H1-H3) presented in the theoretical framework were tested; they operationalize the general hypothesis that "The use of AI in ERP systems is positively associated with the perception of an enhanced impact on sustainability."

Testing these hypotheses was based on data collected via the following questionnaire items:

Q1: Have you implemented AI functionalities in the ERP system you use?

Response coding: 0 – No; 1 – Partially; 2 – Yes.

Q2: To what extent do you consider that the use of artificial intelligence has contributed to improving the decision-making process within the company?

Rating scale: 1 – Not at all; 5 – To a very great extent.
Q3: To what extent do you consider that artificial intelligence can support the organization in achieving its ESG (Environmental, Social, and Governance) objectives?
Rating scale: 1 – Not at all; 5 – To a very great extent (e.g., 1 = scores of 4-5, 0 = scores of 1-3).
Q4: Are you interested in expanding artificial intelligence-based functionalities within ERP systems to increase the efficiency of accounting processes and activities?
Response coding: 0 – No; 1 – Partially; 2 – Yes
The items correspond to the variables of the model as follows: Q1 - GRAD (degree of AI integration); Q2 - PROC (perceived improvement of decision-making); Q3 - SUSTAIN (perceived contribution of AI to sustainability); Q4 - EXTEND (intention to expand AI functionalities).

To test the hypotheses formulated in the research, an exploratory multiple linear regression model was used, constructed based on variables considered relevant for analyzing the relationship between the integration of artificial intelligence into ERP systems and the perception of sustainability. The proposed econometric model is expressed as follows:

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \quad (1)$$

where:
y = perception of the contribution of AI-integrated ERP systems to sustainability (SUSTAIN);
X_1 = degree of artificial intelligence integration in ERP systems (GRAD);
X_2 = perception regarding the improvement of the decision-making process resulting from AI usage (PROC);
X_3 = intention to expand the use of AI functionalities in ERP systems in the future (EXTEND);
β_0 = the model's intercept;
β_1, β_2, β_3 = regression coefficients associated with the independent variables;
ε = the error term.

The model aims to highlight the extent to which the degree of AI integration, the perception of improved decision-making, and the intention to expand the use of this technology explain variations in the perception of the contribution of AI-enabled ERP systems to sustainability.
Because the dependent variable SUSTAIN is binary (0/1), the linear specification in Equation (1) is a linear probability model, which can produce fitted values outside the [0, 1] interval and heteroscedastic errors; it is therefore used as an exploratory benchmark, while the appropriate specification is the binary logistic regression (Hosmer et al., 2013):

$$\text{logit}[P(SUSTAIN = 1)] = \beta_0 + \beta_1 GRAD + \beta_2 PROC + \beta_3 EXTEND \quad (2)$$

Two additional methodological aspects should be noted. First, each construct is measured by a single item, so its reliability and construct validity cannot be assessed. Second, all variables are self-reported by the same respondent at the same time, which exposes the results to common-method bias (Podsakoff et al., 2003) and, in the case of EXTEND, to

potential endogeneity with respect to SUSTAIN. The coefficients are therefore interpreted as associations, not as causal effects.
The following section presents the results of the regression model estimation and the testing of the formulated research hypotheses.

3. Results and discussion

The regression model presented in the previous section aims to evaluate the relationship between the three explanatory variables—GRAD, PROC, and EXTEND—and the dependent variable SUSTAIN. This model analyzes the extent to which the degree of AI integration, the perception of improvements in decision-making, and the intention to expand AI usage contribute to explaining respondents' perceptions regarding the sustainability of AI-integrated ERP systems. The section first presents the descriptive statistics and the correlations between the variables, and then the results of the regression model.

Table no. 4. Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. deviation
GRAD	90	0	2	0.92	0.951
PROC	90	1	5	3.74	1.045
SUSTAIN	90	0	1	0.59	0.495
EXTEND	90	0	2	1.51	0.707

Source: Author's contribution, 2026

According to the results presented in Table 4, SUSTAIN is a binary variable (0 = unfavorable, 1 = favorable perception), so its mean value of 0.59 indicates that 59% of the respondents perceive a favorable contribution of AI-integrated ERP systems to sustainability. Regarding the degree of artificial intelligence integration within ERP systems, the mean value of 0.92 falls below the midpoint of the 0-2 scale and indicates a limited level of implementation of these technologies among the analyzed organizations. On the other hand, respondents' perception of AI's contribution to improving decision-making is relatively high, with a mean value of 3.74 on a scale of 1 to 5. As for the intention to expand the use of artificial intelligence within ERP systems, the mean value of 1.51 (on a scale from 0 to 2, i.e., about 75% of the maximum value) indicates a high level of such intention.

Table no. 5. Pearson correlations between dependent variable and independent variables

Variable	SUSTAIN	GRAD	PROC	EXTEND
SUSTAIN	1	0.290** (0.006)	0.316** (0.002)	0.383** (< 0.001)
GRAD	0.290** (0.006)	1	0.206 (0.051)	0.311** (0.003)
PROC	0.316** (0.002)	0.206 (0.051)	1	0.483** (< 0.001)
EXTEND	0.383** (< 0.001)	0.311** (0.003)	0.483** (< 0.001)	1

Source: Author's contribution, 2026

Note: Pearson correlation coefficients; two-tailed p-values in parentheses; N = 90; ** significant at the 0.01 level.

According to Table no. 5, we can interpret the correlations as follows:

Table no. 5 shows that SUSTAIN is positively and significantly correlated with all three predictors: GRAD ($r = 0.290$, $p = 0.006$), PROC ($r = 0.316$, $p = 0.002$) and EXTEND ($r = 0.383$, $p < 0.001$), the latter being the strongest correlation. Among the predictors, GRAD and EXTEND ($r = 0.311$, $p = 0.003$) and PROC and EXTEND ($r = 0.483$, $p < 0.001$) are significantly correlated, whereas the correlation between GRAD and PROC ($r = 0.206$, $p = 0.051$) is not significant at the 5% level. All the correlations are positive and of weak to moderate size (between 0.206 and 0.483).

According to the results presented in Table no. 5, none of the correlations between the predictors exceeds 0.483, well below the value of 0.8, a threshold commonly used as an indicator of a potential risk of multicollinearity; in addition, the variance inflation factors reported in Table no. 7 (between 1.112 and 1.389) are far below the usual threshold of 5. Consequently, the relationships between the predictors included in the model do not indicate a significant collinearity issue, supporting the suitability of the regression model for the proposed analysis. Among the independent variables, EXTEND shows the strongest association with the dependent variable, which suggests that users' readiness to expand the use of AI-based solutions is the attitude most closely linked to the perceived sustainability benefits of AI-enabled ERP systems.

Table 6. Model summary and ANOVA (dependent variable: SUSTAIN)

Model summary	Value	ANOVA	Value
R	0.445	Regression sum of squares (df = 3)	4.308
R^2	0.198	Residual sum of squares (df = 86)	17.481
Adjusted R^2	0.170	Total sum of squares (df = 89)	21.789
Std. error of the estimate	0.451	Mean square (regression / residual)	1.436 / 0.203
F(3, 86)	7.065	Sig.	< 0.001

Source: Author's contribution, 2026

Table no. 7. Regression coefficients (dependent variable: SUSTAIN)

Variable	B	Std. error	β	t	Sig.	95% CI for B	VIF
(Constant)	-0.043	0.179	-	-0.238	0.812	[-0.399; 0.314]	-
GRAD	0.093	0.053	0.179	1.759	0.082	[-0.012; 0.199]	1.112
PROC	0.075	0.052	0.158	1.431	0.156	[-0.029; 0.179]	1.310
EXTEND	0.175	0.080	0.250	2.201	0.030	[0.017; 0.334]	1.389

Source: Author's contribution, 2026

Based on the results presented in Tables no. 6 and 7 regarding the model summary, the ANOVA analysis and the coefficient estimates, the main findings can be interpreted as follows. Since the dependent variable is binary, these linear estimates should be read as those of a linear probability model, to be confirmed by the logistic specification in Equation (2).

The multiple correlation coefficient R = 0.445 indicates a relationship of moderate strength between the explanatory variables included in the model and the dependent variable. The coefficient of determination $R^2 = 0.198$ shows that approximately 19.80% of the variation in the dependent variable SUSTAIN is explained by the independent variables introduced into the model. The Adjusted $R^2 = 0.170$ value indicates that, after adjusting for the number of predictors and sample size, the model explains approximately 17% of the variation in the dependent variable, suggesting modest explanatory power, since more than 80% of the variation in SUSTAIN remains unexplained and other factors (e.g., organizational culture, digital maturity or regulatory pressure) are likely to matter.

The standard error of the estimate, with a value of 0.451, reflects the level of deviation between the observed values and those estimated by the model. The F Change = 7.065 test value, associated with a probability of Sig. F Change = 0.000, indicates that the regression model is statistically significant ($p < 0.001$). Consequently, the set of independent variables jointly explains a statistically significant share of the variation in the dependent variable.

ANOVA Analysis. Within the decomposition of total variation, the regression sum of squares of 4.308 represents the component of the dependent variable's variability explained by the proposed model, while the residual sum of squares of 17.481 reflects the portion of variation not explained by the variables included in the model. Coefficient analysis. Among the independent variables analyzed, EXTEND is the only statistically significant predictor (B = 0.175, standardized $\beta = 0.250$, t = 2.201, p = 0.030, 95% CI [0.017; 0.334]); each one-unit increase in EXTEND is associated with a 0.175 higher SUSTAIN value (about 17.5 percentage points in the probability of a favorable perception, in the linear probability interpretation), holding the other variables constant. The result suggests that a higher intention to expand the use of AI functionalities within ERP systems is associated with a more favorable perception of their contribution to sustainability. Judged by the standardized coefficients, EXTEND ($\beta = 0.250$) has a larger effect than GRAD ($\beta = 0.179$) and PROC ($\beta = 0.158$), although the differences between the coefficients should not be over-interpreted given the sample size.

The GRAD variable, representing the degree of AI integration in ERP systems, shows a positive coefficient (B = 0.093, β = 0.179); however, it does not reach the conventional 5% threshold for statistical significance. However, the p-value of 0.082 is above the 5% threshold (the association would be significant only at the 10% level), so the data do not allow us to conclude that the degree of AI integration is related to the perception of sustainability.

Regarding the PROC variable—which concerns the perception of improvements in decision-making through AI usage—the estimated coefficient is also positive (B = 0.075, β = 0.158), but the relationship is not statistically significant at the 5% level (p = 0.156). Consequently, based on the obtained results, the existence of a statistically significant relationship between this variable and the perception of sustainability cannot be confirmed.

The regression results provide only partial support for the research hypotheses. H3 is supported: the intention to expand AI functionalities (EXTEND) is positively and significantly associated with the perceived contribution of AI-enabled ERP systems to sustainability (p = 0.030). H1 (degree of AI integration, p = 0.082) and H2 (perceived improvement of decision-making, p = 0.156) are not supported at the 5% significance level. Consequently, the data do not show that the current use of AI in ERP systems is, by itself, associated with a more favorable perception of its sustainability impact; the intention to extend AI functionalities, which underscores the role that users' willingness to develop AI usage may play in the digital transformation process, is the only variable significantly associated with it. Given that EXTEND and SUSTAIN are attitudes expressed by the same respondents at the same time, this association should not be interpreted as a causal effect.

The pattern of results is consistent with the technology adoption literature, in which attitudes and behavioural intentions are closely tied to perceived benefits (Davis, 1989; Venkatesh et al., 2003): respondents who are more willing to expand AI in their ERP systems are also more likely to see AI as beneficial for sustainability. At the same time, the low mean level of AI integration (0.92 on a scale from 0 to 2) suggests that many respondents have limited hands-on experience with AI-enabled ERP functionalities, so their perceptions may reflect expectations rather than experience; this may explain why the degree of integration is not significant. The positive link between AI-enabled ERP and sustainability emphasized in the literature (e.g., Dobhan and Zitzmann, 2022; Shaik, 2023; Dumitru et al., 2023) is therefore supported here only at the level of user perceptions, and not by evidence on actual sustainability outcomes. The modest explanatory power of the model (adjusted $R^2 = 0.170$) indicates that other variables, such as organizational culture, digital maturity or regulatory pressure arising from the CSRD and the ESRS, should be included in future models.

Conclusions

The integration of artificial intelligence (AI) into ERP systems is a key element of organizational digital transformation, enhancing the capacity to analyze information, automate processes, and support decision-making. The survey conducted evaluated perceptions regarding the sustainability of AI-driven ERP systems across three main dimensions: the degree of AI integration within ERP systems, the perceived contribution

to improved decision-making, and the intention to expand AI usage in the future. The findings indicate that, among the three dimensions, only the intention to expand AI usage is significantly associated with a more favorable perception of the contribution of AI-enabled ERP systems to sustainability, with the model explaining about 17% of the variation in this perception (adjusted $R^2 = 0.170$); the degree of AI integration and the perceived improvement of decision-making are not significant at the 5% level, so the hypotheses are only partially supported.

Regression analysis highlights that the intention to expand AI usage (EXTEND) is the only statistically significant predictor within the model ($B = 0.175$; $p = 0.030$). This result may suggest that merely implementing AI functionalities is insufficient to fully leverage the technology's potential. Instead, a long-term strategic approach may be required, supported by concrete plans for the development, expansion, and continuous adaptation of AI-based solutions. Whether organizations that incorporate AI into their development strategies adopt more sustainable practices was not tested in this study and should be examined in future research, since the data collected measure only perceptions.

The study's implications are relevant for both organizational management and those responsible for formulating development and digital transformation strategies. The results offer exploratory insight into users' perceptions of the potential of AI-enabled ERP systems to support sustainability goals; effects on operational efficiency, resource use, energy consumption, supply chain management or waste were not measured and remain to be tested. Furthermore, the research can serve as a starting point for deeper analysis by introducing additional variables, such as organizational culture, the level of digital maturity, or employee readiness for digital transformation processes.

From a practical perspective, the association between the intention to expand AI and a favorable perception of its sustainability contribution suggests that organizations should accompany AI implementation with change-management and training initiatives that increase users' awareness of the ESG-related uses of ERP data, especially in the context of CSRD/ESRS reporting. For professional bodies and universities, the results point to the need to include data analytics, AI literacy and sustainability reporting in the initial training and continuing education of accountants. Future research should (i) use probability or quota samples that identify accountants and ERP users by role, sector and type of ERP; (ii) use validated multi-item scales derived from TAM/UTAUT; (iii) apply binary logistic regression or structural equation modelling; and (iv) complement perceptions with objective ESG and performance indicators.

From the perspective of the accounting profession (an issue that the survey did not measure directly and that is discussed here on the basis of the literature reviewed), the automation of repetitive and standardized tasks is likely to drive a progressive transformation in the responsibilities of professionals in the field. They can shift from a predominantly operational role—focused on recording and verifying information—to one centred on analysis, interpretation, and strategic consulting, thereby directly contributing to the organization's value creation process. Consequently, the accounting profession is increasingly taking shape as a knowledge-based activity, where analytical thinking, digital skills, data interpretation capabilities, and interdisciplinary knowledge are becoming increasingly important. In turn, technology does not necessarily lead to the replacement of accounting professionals; instead, it may drive the redefinition and

enhancement of their role, transforming them into strategic organizational partners and key players in the development of smart, sustainable business models.

The research also presents certain limitations that should be considered when interpreting the results. A primary constraint is the sample size—comprising 90 respondents—which may limit the generalizability of the findings to a broader population. Moreover, the sample is a non-probability convenience sample recruited through social media and dominated by respondents aged 20-30 (73.3%), which further limits its representativeness, and the respondents' occupation, sector and type of ERP were not controlled for. Each construct is measured by a single self-reported item, which prevents the assessment of reliability and exposes the results to common-method bias; the cross-sectional design and the potential endogeneity of the intention to expand AI (EXTEND) do not allow causal interpretations. Finally, the dichotomous dependent variable calls for logistic estimation, and the explanatory power of the model is modest. Another limitation stems from the fact that the analysis relied primarily on respondent perceptions, without directly correlating them with objective, quantifiable indicators of economic, operational, or sustainability performance. Future research could address these limitations by utilising larger, more diverse samples and by incorporating concrete organizational data regarding resource consumption, emissions, operational efficiency, or financial performance.

In conclusion, the reconfiguration of ERP systems through the integration of artificial intelligence goes beyond mere technological innovation, representing a strategic direction for developing organizations that are more efficient, intelligent, and sustainable. Effectively leveraging the potential of AI may bolster both organizational competitiveness and performance, while also facilitating the achievement of environmental and social goals. In this context, organizations that successfully integrate technology, human expertise, and sustainability objectives can position themselves advantageously for the transition to the digital economy, while simultaneously contributing to environmental protection and the creation of lasting value for society.

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