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The Impact of Artificial Intelligence on Computerized Accounting Systems and Data Analysis

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Abstract: This paper examines the impact of Artificial Intelligence (AI) on Computerized Accounting Systems (CAS) and data analysis, focusing on automation, reporting, system integration, and decision-making. The study uses a qualitative and descriptive research methodology based on academic literature, official software documentation, company websites, product information, and interviews with selected Albanian CAS providers. The analysis compares the level of AI integration in Albanian CAS, Balkan CAS/ERP systems, and international CAS/ERP platforms. The paper discusses several AI-related technologies that can be integrated into CAS, including Machine Learning, Optical Character Recognition, Intelligent Document Processing, Natural Language Processing, Robotic Process Automation, Business Intelligence, and Virtual Assistants. The findings show that international CAS/ERP systems demonstrate a higher level of AI maturity, especially through predictive analytics, AI assistants, intelligent document processing, workflow automation, and advanced reporting. In contrast, Albanian CAS are mainly focused on accounting digitalization, fiscal compliance, reporting, integration, and rule-based automation, while advanced AI features remain limited or not clearly documented. Using the Technology-Organization-Environment framework, the paper concludes that AI adoption in CAS depends on technological capabilities, organizational readiness, and environmental factors such as regulation, fiscalization, market pressure, and software provider support.

Keywords: Artificial Intelligence; Computerized Accounting Systems; Machine Learning; OCR; Predictive Analytics

JEL Classification: M41, M15, O33

1. Introduction

In general, businesses use Computerized Accounting Software (CAS) to record, process, and organize accounting data in a more efficient and structured way. Based on these data, CAS generate important financial and managerial reports that support decision-making at different levels of the organization. Therefore, the role of CAS is not limited only to the operational side of accounting, such as recording transactions or preparing standard financial statements. These systems also support the managerial function of the business by providing useful reports for daily decision-making, including supplier balance reports, customer balance reports, cash flow statements, accounting balance sheets, and other

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financial and managerial reports. In this context, it is very important for the system to manage business procedures effectively. If these procedures were performed manually, they would require a considerable amount of time. Since time is one of the limited resources of a business, it is very important to manage it properly.

Over the last decade, the focus of Computerized Accounting Systems has changed significantly. While ten years ago the main priorities were system performance and integration with other business applications, today the attention has shifted toward the use of Artificial Intelligence within CAS. AI is increasingly being integrated into accounting systems in order to improve system performance, shorten the time required to complete different business processes, and transform accounting software from simple transaction-processing tools into more intelligent systems that support automation, analysis, reporting, and decision-making.

The implementation of a Computerized Accounting System (CAS) requires time, a well-organized management structure, adequate financial investment, and careful adaptation to the legal and procedural framework of the respective country. In Albania, the development of computerized accounting has evolved through the adoption of both international CAS/ERP systems and locally developed CAS solutions. These Albanian systems have been created by domestic software companies and introduced into the local market by the same providers, contributing to the gradual digitalization of accounting practices across businesses.

Albanian computerized accounting systems range from simple CAS to easy ERP systems, such as Alpha Web, which is a widely used easy ERP system in Albania. This paper aims to provide an overview of the systems used in Albania and to analyse the stage at which these systems currently stand in terms of integrating different forms of Artificial Intelligence into their structure, with the purpose of facilitating various business processes.

The current situation in Albania will be compared with the level of AI integration in computerized accounting systems in the Balkan region. Then, the paper will also provide a descriptive analysis of some of the best CAS/ERP systems in the world, in order to present the current situation of AI integration in these systems. This comparison is relevant because some of these international systems are also implemented in Albania, such as SAP, Microsoft Dynamics, Odoo, QuickBooks, and others.

The main goal of this paper will be the different types of Artificial Intelligence that can be integrated into a Computerized Accounting System, such as Machine Learning, OCR and IDP, Natural Language Processing, Robotic Process Automation, Virtual Assistants, and Business Intelligence. This study also refers to the Technology–Organization–Environment (TOE) framework to explain how technological, organizational, and environmental factors influence the adoption of Artificial Intelligence in Computerized Accounting Systems.

2. Literature Review

2.1. Theoretical Framework: Technology-Organization-Environment (TOE) Framework

The Technology-Organization-Environment (TOE) framework was introduced by Tornatzky and Fleischer (1990) to explain the adoption and implementation of technological innovations at the organizational level. The Technology–Organization–Environment (TOE) framework is used in this paper to explain the factors that influence the adoption of Artificial Intelligence in Computerized Accounting Systems. The technological context refers to the characteristics of the technology itself, such as compatibility, complexity, security, system integration, and the availability of AI-based features. The

organizational context includes internal business factors, such as company size, financial resources, management support, employee skills, and readiness for digital transformation. The environmental context refers to external factors, such as regulatory requirements, market competition, customer expectations, software provider support, and government digitalization policies.

In the context of this study, the TOE framework helps explain why AI integration in CAS may differ between Albanian systems, Balkan systems, and international CAS/ERP platforms. For example, international systems may have stronger technological capabilities and higher investment capacity, while Albanian and regional systems may be more influenced by local regulations, fiscalization requirements, market size, and the digital readiness of users.

2.2. Computerized Accounting Systems and Accounting Information Systems

Richardson et al. (2023) define Accounting Information Systems as systems that record, process, summarize, report, and communicate the results of business transactions in order to provide financial and non-financial information for decision-making. According to Romney et al. (2021), an Accounting Information System (AIS) is a system that collects, records, stores, and processes accounting data in order to produce useful information for decision-makers. From this perspective, a Computerized Accounting System can be understood as the technology-based form of AIS, where accounting data are processed through software and information technology.

Based on the definitions presented above, CAS primarily focus on the recording of data, their automated processing within the system, and the accurate reporting of information to support decision-making. Automation represents a fundamental component of CAS, as it eliminates the need for multiple users to record the same data repeatedly within the system. Instead, data are entered once and subsequently integrated into the central accounting system through automated processes.

Oden and Ewa (2025) examine the impact of Computerized Accounting Systems on the financial performance of SMEs. They focus on automatic transaction recording, automatic financial report generation, and automatic income and expense tracking as important features of CAS.

2.3. Artificial Intelligence in Computerized Accounting Systems

Since the focus of this paper is the use of different forms of Artificial Intelligence in Computerized Accounting Systems, it is necessary to explain the main AI technologies that can be integrated into a CAS and to show how they support accounting processes, reporting, automation, and decision-making.

According to OECD (2024), Artificial Intelligence is a machine-based technology that can analyse data, learn from patterns, and generate outputs such as predictions, recommendations, decisions, or content to support or automate human tasks. Petkov (2020) explains AI in accounting as the introduction of intelligent technologies into the accounting function, where systems are able to perform or support tasks that traditionally required human intelligence. In computerized accounting systems, this means that AI can support transaction classification, data processing, reporting, analysis, and decision-making.

2.4. Machine Learning in Computerized Accounting Systems

Kaur (2020) describes machine learning as a subfield of artificial intelligence that enables computer programs to automatically learn and improve by using large amounts of data to generate insights and

future prediction.

When Machine Learning is considered within a Computerized Accounting System, it can perform different types of analysis by using previous historical data and identifying trends for specific variables. In the context of a CAS, Machine Learning can analyse sales over several years in order to identify the best-selling products and further classify them by geographical area, time period, customer type, gender, and other relevant criteria.

Zhang (2025) discusses the addition of machine learning functions to traditional computerized accounting systems, emphasizing that such integration can help enterprises make better decisions. Therefore, ML in CAS can be seen as the integration of intelligent analytical functions into accounting software to improve decision-making, efficiency, and the quality of accounting information.

2.5. Optical Character Recognition and Intelligent Document Processing in Computerized Accounting Systems

Another type of AI used in Computerized Accounting Systems is OCR, and more recently, a more advanced version known as Intelligent Document Processing (IDP). While OCR mainly reads different documents automatically, such as invoices or bank statements, converts them into a format that can be understood by the CAS, and imports them directly into the software as final documents, IDP goes further.

Intelligent Document Processing not only reads the documents, but also analyses them and stores different relationships in the system's memory, such as accounting accounts, suppliers, transaction types, and transaction values. These data can later be used to record other invoices more quickly or to perform different types of analysis.

According to IBM (2026), Intelligent Document Processing uses artificial intelligence and deep learning to read, classify, and extract relevant data from different document types. In the context of CAS, this means that IDP can help accounting software identify the type of document being processed and extract the necessary accounting information for further recording, approval, or reporting.

2.6. Natural Language Processing in Computerized Accounting Systems

Jurafsky and Martin (2026) describe NLP as an interdisciplinary field related to natural language processing, computational linguistics, and speech recognition. In the context of CAS, this means that NLP combines language analysis and computer-based methods to help accounting systems understand written or spoken accounting information and transform it into useful data. In the context of Computerized Accounting Systems (CAS), NLP allows accounting software to analyse textual information from invoices, contracts, audit notes, financial reports, e-mails, and user queries.

2.7. Robotic Process Automation in Computerized Accounting Systems

Businesses perform many operations that are repeated continuously and require a considerable amount of time to complete. In some cases, certain transactions must also be entered twice in two different systems. This is the case, for example, with employee data entry for generating the payroll, which must be completed both in the relevant CAS and in the system of the General Tax Directorate, e-Filing (efiling.tatime.gov.al).

In this context, some systems in Albania, such as Elif, have used Robotic Process Automation (RPA) to simplify this process. The payroll is prepared only in one system, in this case in the CAS, and then, through RPA, the data are automatically transferred to the e-Filing system.

Agostinelli et al. (2020) explain that RPA tools capture routines previously performed by human users on the interface of a computer system and then emulate those routines through software robots. In CAS, this means that a bot can follow the same steps as an accountant, such as opening the accounting software, entering invoice data, downloading bank statements, comparing balances, or exporting reports.

2.8. Business Intelligence in Computerized Accounting Systems

One of the main purposes of using Computerized Accounting Systems and other supporting tools is to generate appropriate accounting and managerial reports. Although each CAS includes its own standard reporting modules, these reports are generally fixed and may not always respond to the changing needs of businesses. For this reason, businesses need flexible reporting capabilities that allow them to create customized reports whenever necessary. These reports may be required in response to different business situations, management needs, or the requirements of various stakeholders. Therefore, CAS can be integrated with different Business Intelligence tools, such as Power BI, in order to support the development of flexible and customized reports whenever they are needed by the business.

Thakar and Kalbande (2022) define Business Intelligence as knowledge derived from existing data that can be strategically applied within a business. Applied to CAS, this means that accounting data recorded in the system can be analysed and transformed into useful knowledge for planning, control, budgeting, performance evaluation, and decision-making.

2.9. Virtual Assistants in Computerized Accounting Systems

In recent years, reporting has reached a more advanced stage of development through the integration of virtual assistants within Computerized Accounting Systems. Microsoft Dynamics, for example, has incorporated Copilot into its system. As a result, if a user wants to view the balance statement of Customer A, it is no longer necessary to generate the customer balance report by following the traditional steps. Instead, the user can simply write in the system's chat interface, "What is the balance of Customer A?", and within a few seconds the system can provide an accurate response. This tool is also being used to create quick reports and to process data that, in the past, would have required a considerable amount of time.

Guan et al. (2023) explain that intelligent virtual assistants based on large language models can interpret complex natural language instructions, reason about user goals, and execute multi-step operations. In CAS, this type of assistant could support more advanced workflows, such as preparing a financial report, checking inconsistencies, analysing transactions, or helping users complete accounting procedures across different software modules.

2.10. Costs and Challenges of AI Implementation in Computerized Accounting Systems

Despite the tangible benefits that come from the use of Artificial Intelligence in Computerized Accounting Systems, its implementation is associated with several important costs. These costs are mainly related to infrastructure, software licenses, staff training, maintenance, and system updates.

The integration of AI into a CAS is a costly process. Therefore, companies that own or develop a CAS should conduct a proper business analysis before deciding whether to include this tool in their system.

Gnatiuk et al. (2023) explain that the implementation of AI, RPA, blockchain, or other digital tools in accounting systems requires consideration of cost, technical, professional, and managerial factors. In this context, AI implementation cost can be understood as the total financial, technical, and human resources required to integrate, maintain, and evaluate AI-based tools within computerized accounting systems.

3. Methodology

This paper uses a qualitative and descriptive research methodology. The study does not rely on questionnaires, surveys, or statistical testing. Instead, it is based on the review and analysis of secondary data from academic literature, official software documentation, company websites, product descriptions, and publicly available information.

The qualitative approach is used to understand how Artificial Intelligence is being integrated into Computerized Accounting Systems and how it affects accounting processes, reporting, automation, data analysis, and decision-making. The descriptive approach is used to explain the main AI technologies applied in CAS and ERP systems, such as Machine Learning, OCR, IDP, NLP, RPA, Business Intelligence, and Virtual Assistants.

The analysis focuses on selected Albanian, Balkan, and international CAS/ERP systems. These systems are compared based on the AI-related features they provide and their role in improving accounting efficiency, reporting quality, automation, and decision support.

The TOE framework is used as an analytical lens to discuss the factors influencing AI adoption in CAS. These factors are grouped into technological, organizational, and environmental dimensions.

In order to analyse the topic in detail, this study is guided by three research questions:

- What are the main AI technologies implemented in different Albanian and foreign CAS/ERP systems?
- What is the current level of AI integration in Albanian CAS compared with Balkan and international CAS/ERP systems?
- Does the use of AI in CAS/ERP systems improve business processes, automation, financial reporting, managerial reporting, and decision-making?

4. Results and Discussion

4.1. Data Sources and Selection of CAS/ERP Systems

To answer the research questions presented above, this study analyses the current situation regarding the integration of AI into different international, regional, and Albanian systems. The data were collected from scientific articles, official websites of private companies, technical documentation, and interviews with managers of different Albanian CAS companies.

An important element of the study is the selection of the international CAS/ERP systems included in the analysis. This selection was not random. For the purpose of this paper, we selected those international systems that are also used in Albania and that we had the opportunity to analyse directly by accessing them, reviewing their modules, and identifying where AI has been implemented within these CAS/ERPs

4.2. General Findings on AI Integration in CAS/ERP Systems

The findings of this study show that Artificial Intelligence is gradually transforming Computerized Accounting Systems from traditional transaction-processing tools into more advanced systems that support automation, data analysis, reporting, and decision-making. The level of AI integration, however, differs significantly between international CAS/ERP platforms, Balkan systems, and Albanian accounting software.

International CAS/ERP systems, such as SAP, Microsoft Dynamics, Oracle NetSuite, QuickBooks, Sage, Xero, and Odoo, show a more advanced level of AI integration. These systems increasingly include AI-based tools such as virtual assistants, predictive analytics, automated reporting, OCR, Intelligent Document Processing, and advanced Business Intelligence dashboards. These tools allow users to process accounting data more quickly, generate reports in real time, automate repetitive tasks, and obtain more meaningful insights from financial and operational data.

For the purposes of this study, international CAS/ERP systems are divided into two main subgroups: CAS, also referred to as Easy ERP systems, and ERP systems.

4.3. AI Classification Framework for CAS/ERP Systems

For evaluating the level of Artificial Intelligence integration in each Computerized Accounting System or ERP system analysed in this study, an AI maturity classification framework was developed. This framework is used as a legend to classify each system based on the visibility, complexity, and practical application of AI-related features within accounting and business processes.

The classification is based on the AI-related functionalities identified in each system, such as OCR, Intelligent Document Processing, transaction classification, automated reconciliation, Business Intelligence, predictive analytics, virtual assistants, AI agents, workflow automation, anomaly detection, and natural language interaction.

Table 1. AI Classification Framework for CAS/ERP Systems

AI maturity level	Classification	Description	Typical AI features
Level 0	No clear public evidence of AI	Traditional accounting software with no visible native AI functionality.	Standard accounting modules, fiscalization, reporting, payroll, inventory, sales, purchases, tax compliance
Level 1	Rule-based automation	Automation based mainly on predefined rules rather than AI.	Automatic general ledger updates, autocomplete, predefined controls, recurring transactions, rule-based workflows, standard reports
Level 2	Computerized accounting with BI potential	Strong accounting/reporting with possible BI integration, but limited AI.	Financial reports, dashboards, analytical reports, BI integration potential, management reporting, data visualization
Level 3	Basic-medium AI	AI supports document processing and accounting automation.	OCR, AI invoice digitization, document-to-record automation, transaction classification, coding suggestions, basic reconciliation support
Level 4	SME-focused AI / Cloud AI	AI tools focused on bookkeeping and finance support for SMEs.	AI bookkeeping support, bank reconciliation, invoice data capture, coding suggestions, cash-flow insights, automated financial recommendations

Level 5	Medium–advanced AI	More advanced AI for finance management, reporting, and workflow support.	AI-supported financial insights, anomaly detection, workflow automation, reporting support, intelligent finance assistance
Level 6	Advanced enterprise AI	AI integrated across finance, ERP, planning, and business workflows.	AI assistants, AI agents, predictive analytics, finance automation, cash forecasting, intelligent document recognition, process optimization, advanced reporting
Level 7	Advanced cloud ERP AI	Advanced AI embedded across cloud ERP and business management processes.	AI-supported analytics, predictive insights, financial planning, ERP-wide data analysis, cloud reporting automation, integrated business intelligence

4.4. AI in International CAS

Table 2 below presents a summary of the findings for the international CAS, also referred to as Easy ERP systems, analysed in this study. These CAS focus more on AI applications such as invoice digitalization, transaction classification, reconciliation and management insights.

Table 2. AI in International CAS

CAS / ERP	AI evidence	Main AI capabilities	Accounting & data-analysis relevance	AI maturity
Odoo Accounting / Odoo ERP	Yes	OCR, AI invoice digitization, vendor bill recognition, customer invoice recognition and document-to-record automation.	Very relevant for reducing manual invoice entry and supporting document digitization in accounting workflows.	Basic–medium AI
QuickBooks Online / Intuit Assist	Yes	AI assistant, automated bookkeeping support, transaction organization, reconciliation support and financial recommendations.	Useful SME benchmark: practical accounting assistance, faster bookkeeping and clearer financial interpretation.	SME-focused AI
Xero	Yes	AI-supported bank reconciliation, invoice data capture, coding suggestions, cash-flow insights and reporting automation.	Useful for cloud accounting, real-time visibility and reducing repetitive accounting work for small businesses.	SME/cloud AI
Sage Intacct / Sage Copilot	Yes	AI-supported financial insights, anomaly detection, workflow automation, reporting support and intelligent finance assistance.	Strong for mid-sized companies: financial management, reporting quality, anomaly detection and team productivity.	Medium–advanced AI

Table 2 shows that international AIS/ERP systems are increasingly integrating AI into core accounting workflows. Odoo mainly applies AI to invoice digitization and document automation, while QuickBooks, Xero, and Sage Intacct focus on AI-assisted bookkeeping, reconciliation, reporting, financial insights, and anomaly detection. Overall, these systems demonstrate that AI adoption in accounting is moving from simple automation toward intelligent support for data processing, financial analysis, and decision-making.

4.5. AI in International ERP Systems

On the other hand, this study also analyses ERP systems, which are larger and more complex systems. Table 3 below presents a summary of the findings for the international ERP systems analysed in this study.

Table 3. AI in International ERP systems

AIS / ERP	AI evidence	Main AI capabilities	Accounting & data-analysis relevance	AI maturity
SAP S/4HANA / SAP Business AI	Yes	Joule AI assistant, predictive analytics, finance automation, cash forecasting and process optimization.	Strong for large enterprises: reporting, controlling, treasury, risk analysis and strategic decision support.	Advanced enterprise AI
Oracle Fusion Cloud ERP	Yes	Embedded AI, AI agents, intelligent document recognition, transaction processing, forecasting and reporting support.	Strong for enterprise finance: automation, planning, supplier invoice processing and financial workflow optimization.	Advanced enterprise AI
Microsoft Dynamics 365 Business Central / Navision	Yes	Copilot, AI agents, bank reconciliation, payables support, analysis assistance and workflow automation.	Highly relevant for SMEs and mid-market firms; older Navision/Dynamics NAV may need upgrade/integration for AI.	Advanced ERP AI
NetSuite ERP	Yes	AI-supported analytics, predictive insights, financial planning, reporting automation and ERP-wide data analysis.	Useful for integrated accounting, inventory, CRM, planning and cloud-based management reporting.	Advanced cloud ERP AI

Table 3 indicates that leading ERP systems have moved beyond basic accounting automation toward advanced AI-supported financial management. SAP, Oracle, Microsoft Dynamics 365 Business Central, and NetSuite use AI to support forecasting, reporting, workflow automation, document processing, reconciliation, and strategic decision-making. Overall, these systems represent a higher level of AI maturity, especially for large enterprises and mid-market firms that require integrated accounting, analytics, planning, and real-time business insights.

4.6. AI in CAS/ERPs Implemented in the Balkan Region

After analysing international CAS and ERP systems, this study provides a general analysis of the CAS implemented in the Balkan region, excluding the Albanian market, which is analysed separately.

Table 4 presents specific CAS/ERP systems implemented in each country and their respective AI maturity level.

Table 4. AI in CAS/ERPs Implemented in the Balkan Region

Country	Visible CAS / ERP systems	Main use	AI maturity	Finding
Kosovo	Alpha Web, Bilanc, Odoo, Kubit, PANTHEON, Microsoft Dynamics, SAP	Accounting, tax reporting, inventory, sales, payroll	Medium; limited public AI	Mix of local/regional and global ERP; AI mainly via global tools.
North Macedonia	Business Central, SAP, Odoo, PANTHEON, Oracle/NetSuite	ERP, VAT reporting, inventory, e-invoicing, payroll	Medium-to-high ERP	Global ERP and regional systems visible; AI strongest in international platforms.
Montenegro	SAP, Odoo, Microsoft Dynamics, Oracle/NetSuite, PANTHEON	ERP, accounting, reporting, procurement, inventory	Medium; AI via global ERP	More dependent on international/regional ERP than large local AIS brands.
Serbia	SAP, Business Central, Odoo, PANTHEON, Oracle/NetSuite	Enterprise accounting, ERP, tax compliance, e-invoicing	High regional ERP	One of the stronger ERP markets in the Western Balkans.
Bosnia & Herzegovina	PANTHEON, SAP, Odoo, Microsoft Dynamics, Oracle/NetSuite	Accounting, ERP, inventory, payroll, business management	Medium ERP	Regional and global systems visible; advanced AI mostly in global ERP.
Croatia	SAP, Microsoft Dynamics 365, Odoo, PANTHEON, Oracle/NetSuite	ERP, accounting, finance, tax reporting, inventory	High digitalization	Mature EU environment with global ERP and regional ERP options.
Slovenia	PANTHEON, SAP, Microsoft Dynamics, Odoo, Oracle/NetSuite	ERP, accounting, payroll, manufacturing, wholesale	High digitalization	PANTHEON home market; global ERP relevant for larger firms.
Bulgaria	Business Central, SAP, Oracle/NetSuite, SOFTONE, Odoo	ERP, accounting, tax reporting, inventory, procurement	High ERP maturity	Developed ERP market; AI strongest in SAP, Oracle, Microsoft and Odoo.
Romania	SAP, Oracle/NetSuite, Microsoft Dynamics, Odoo, SOFTONE	Accounting, ERP, SAF-T reporting, finance, consolidation	High digitalization	Stronger enterprise ERP environment and advanced reporting requirements.
Greece	SOFTONE, SAP, Microsoft Dynamics, Oracle/NetSuite, Odoo	Accounting, ERP, invoicing, tax reporting, retail	High digitalization	Strong local/regional ERP plus global platforms; AI clearer in global ERP.

Table 4 shows that AIS/ERP adoption across Balkan countries is heterogeneous, combining local, regional, and global systems. More digitally mature markets such as Croatia, Slovenia, Bulgaria, Romania, Greece, and Serbia show stronger ERP development and wider use of international platforms such as SAP, Microsoft Dynamics, Oracle/NetSuite, and Odoo. Smaller markets such as Kosovo, Montenegro, North Macedonia, and Bosnia & Herzegovina rely more on a mix of regional and global systems. Overall, AI maturity appears strongest in global ERP platforms, while local and regional

systems remain mainly focused on accounting digitalization, tax compliance, reporting, and ERP automation.

4.7. Local CAS Implemented in the Albanian Market

The final analysis focuses on local CAS, specifically those with the largest number of clients in the domestic market. Table 5 presents a summary of these findings. In this table, the analysis is more detailed compared to the previous tables, because these systems are more widely used in Albania and we had the opportunity to access the four selected systems, analyse their respective modules, and examine the current situation of AI integration within these systems.

Table 5. Local CAS Implemented in Albanian Market

CAS	AI evidence	Main functions	AI / automation identified	Classification	Accounting & data-analysis relevance
Alpha Web	No clear public evidence	Easy ERP, Accounting, fiscalization, finance, inventory, sales, purchases, reporting and business administration.	Reporting and BI potential; no clear evidence of OCR, ML, AI assistant or predictive analytics.	Computerized accounting + BI potential	Strong for financial management and operational reporting, strong in integration and fiscalization, AI adoption should be treated as not publicly confirmed.
Financa 5	No clear public evidence	Accounting, inventory, sales, purchases, payroll, production, reporting and fiscalization.	Automation, real-time tracking, controls and fiscalization workflows; native AI not publicly verified.	Automation + reporting	Highly relevant for Albanian compliance and management control; AI potential exists mainly in future integrations.
Bilanc	No clear public evidence	Accounting, tax reporting, payroll, fiscalization, inventory, cash/bank, VAT and analytical reports.	Automatic GL updates, autocomplete, graphical reports and rule-based automation; not confirmed AI.	Rule-based automation	Useful for compliance and accounting workflows; advanced AI functions are not clearly documented.
Elif	No clear public evidence	Fiscalization, invoicing, accounting, POS, integrations, real-time reports, scan/send and validations.	Automation, fiscalization, reporting, no clear evidence of AI	Rule-based automation	Useful for compliance and accounting workflows, RPA, advanced AI functions are not clearly documented.

In Albania, Computerized Accounting Systems are widely used for operational accounting, fiscal compliance, financial reporting, payroll, inventory, sales, fiscalization, purchases, and tax-related procedures. Albanian CAS, such as Alpha Web, Financa 5, Bilanc, Elif, and other local systems, have played an important role in digitalizing accounting processes and supporting businesses in meeting legal and fiscal requirements. However, the integration of advanced AI technologies is still in an early stage. Current developments are mainly related to automation, OCR, reporting tools, integrations with external

platforms, and process simplification. More advanced AI functions, such as natural language interaction, predictive analytics, intelligent assistants, and machine learning-based analysis, are still less developed compared to international platforms.

5. Conclusion

This paper analysed the impact of Artificial Intelligence on Computerized Accounting Systems and data analysis, focusing on the way AI technologies are being integrated into Albanian, Balkan, and international CAS/ERP systems. The findings show that Artificial Intelligence is gradually transforming computerized accounting systems from traditional transaction-processing tools into more intelligent platforms that support automation, financial reporting, data analysis, and managerial decision-making.

The study shows that AI is being applied in CAS through different technologies, including Machine Learning, Optical Character Recognition, Intelligent Document Processing, Natural Language Processing, Robotic Process Automation, Business Intelligence, and Virtual Assistants. These tools contribute to the automation of repetitive accounting tasks, reduction of manual data entry, faster document processing, improved reporting flexibility, better analysis of financial data, and more efficient support for decision-making. In this sense, AI does not replace the role of accounting systems, but strengthens their ability to process, analyse, and communicate accounting information in a more effective way.

The comparative analysis indicates that international CAS/ERP systems have reached a higher level of AI maturity. Platforms such as SAP, Oracle, Microsoft Dynamics, NetSuite, Sage, Xero, QuickBooks, and Odoo increasingly integrate AI-based tools for invoice processing, reconciliation, reporting, forecasting, intelligent assistance, workflow automation, and financial analysis. These systems demonstrate that AI adoption in accounting is moving beyond simple automation toward predictive, analytical, and decision-oriented functions.

In the Balkan region, the level of AI integration is heterogeneous. More digitally developed markets, such as Croatia, Slovenia, Bulgaria, Romania, Greece, and Serbia, show stronger ERP adoption and wider use of international platforms. In smaller markets, including Kosovo, Montenegro, North Macedonia, and Bosnia and Herzegovina, CAS/ERP adoption is more strongly based on a mix of regional and global systems. Overall, the strongest AI capabilities in the region are mainly visible in international ERP platforms, while local and regional systems remain more focused on accounting digitalization, tax compliance, reporting, and process automation.

In Albania, Computerized Accounting Systems play an important role in supporting accounting, fiscalization, financial reporting, payroll, inventory, sales, purchases, and tax compliance procedures. Local systems such as Alpha Web, Financa 5, Bilanc, and Elif have contributed significantly to the digitalization of accounting processes in the Albanian market. However, the findings suggest that advanced AI integration in Albanian CAS is still in an early stage. Current developments are mainly related to automation, reporting, fiscal compliance, integrations, and process simplification, while more advanced AI functions such as virtual assistants, predictive analytics, natural language interaction, machine learning-based analysis, and intelligent document processing are still limited or not clearly documented in public sources.

Using the Technology-Organization-Environment framework, the paper shows that AI adoption in CAS is not only a technological issue. From the technological perspective, adoption depends on the availability of AI features, system compatibility, data quality, cybersecurity, and integration with other

platforms. From the organizational perspective, adoption is influenced by financial resources, management support, employee skills, business size, and readiness for digital transformation. From the environmental perspective, adoption is affected by tax regulations, fiscalization, e-Filing requirements, market competition, customer expectations, government digitalization, and software provider support.

The findings also indicate that AI integration in CAS brings important benefits, but it is accompanied by several challenges. The main benefits include higher efficiency, faster processing, improved accuracy, better reporting quality, automation of routine tasks, and stronger decision support. However, the implementation of AI also requires investment in infrastructure, software licenses, staff training, maintenance, system upgrades, data security, and organizational readiness. Therefore, businesses and CAS providers should carefully evaluate the costs and benefits before integrating advanced AI tools into their accounting systems.

In conclusion, Artificial Intelligence represents an important direction for the future development of Computerized Accounting Systems. International systems are already moving toward intelligent, automated, and analytical accounting platforms, while Albanian and regional systems are still developing gradually. For the Albanian market, the future challenge is to move from traditional accounting digitalization and rule-based automation toward more advanced AI-supported accounting systems. This development can improve not only accounting efficiency, but also the quality of financial reporting, data analysis, and managerial decision-making.

6. Limitation and Future Research

This study has some limitations. First, the analysis is based mainly on qualitative and descriptive data collected from scientific articles, official company websites, technical documentation, publicly available product information, and interviews with selected Albanian CAS providers. Therefore, the paper does not include quantitative testing, statistical analysis, or survey data from a large number of businesses and users.

Second, the evaluation of AI integration in some CAS/ERP systems is limited by the availability of public information. In several cases, software providers do not clearly explain the exact AI technologies used in their systems, which makes it difficult to fully verify the level of AI maturity. For this reason, some classifications should be interpreted carefully.

Future research may extend this study by using questionnaires, interviews, or case studies with accountants, business managers, and software providers. Further studies may also measure the real impact of AI integration on accounting efficiency, reporting quality, cost reduction, data analysis, and decision-making. In addition, future research could focus specifically on the Albanian market by analysing how local CAS providers can develop and integrate more advanced AI tools into their systems.

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