

Artificial Intelligence in ERP Quality Management Modules: A Comparative Analysis of SAP and Infor

Staš Heric, Samo Bobek, Simona Sternad Zabukovšek*

University of Maribor, Faculty of Economics and Business, Slovenia

stas.heric@student.um.si, samo.bobek@um.si; simona.sternad@um.si

ARTICLE INFO

Original Scientific Article

Article history:

Received September 2025

Revised September 2025

Accepted September 2025

JEL Classification

M10, M15, L86

Keywords:

Enterprise Resource Planning (ERP)

Quality Management (QM)

Artificial Intelligence (AI)

SAP

Infor

Comparative Analysis

Digital Transformation

UDK: 004.8:005.336.3

DOI: 10.2478/ngoe-2025-0014

Cite this article as: Heric, S., Bobek, S. & Sternad Zabukovšek, S. (2025). Artificial Intelligence in ERP Quality Management Modules: A Comparative Analysis of SAP and Infor. *Naše gospodarstvo/Our Economy*, 71(3), 15-28. DOI: 10.2478/ngoe-2025-0014

©2025 The Authors. Published by Sciendo on behalf of the University of Maribor, Faculty of Economics and Business, Slovenia. This is an open-access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Abstract

Enterprise Resource Planning (ERP) systems are widely recognised as strategic enablers of digital transformation, integrating core business functions and supporting operational efficiency. Quality Management (QM) is a pivotal component of their curriculum, critical in ensuring compliance, sustaining competitiveness, and driving continuous improvement. Recent advancements in artificial intelligence (AI) have further augmented the potential of ERP systems by facilitating predictive analytics, anomaly detection, and intelligent process automation. However, the integration of AI into ERP-based QM has not yet been systematically examined in academic research. The present article addresses this gap by comparing two leading ERP vendors, SAP and Infor, focusing on their AI-enabled QM modules. The study utilises academic literature, industry reports, and vendor documentation to demonstrate that SAP emphasises horizontal breadth and positions its QM functionalities as part of a global digital core. Concurrently, Infor prioritises vertical specialisation, customising its QM functionalities to meet the distinct needs of specific industries and augmenting them with advancements in AI and generative AI. The findings contribute to theory and practice by demonstrating how ERP vendors differentiate their approaches to AI integration in QM. The present study contributes to the extant literature on ERP and Total Quality Management (TQM) by extending the current body of knowledge in this area. It highlights the strategic role of AI in shaping ERP value creation. It provides managerial guidance for organisations evaluating ERP systems in the context of quality assurance, sustainability, and digital transformation.

Introduction

Enterprise Resource Planning (ERP) systems have become pivotal to the digital transformation of organisations, facilitating the integration of finance, supply chain, production, and customer-facing processes into a unified platform (Bradford, 2015). Among the various ERP functionalities, Quality Management (QM) modules are critical in ensuring compliance with international standards, improving

*Corresponding author

operational efficiency, and supporting sustainable performance (Psomas & Antony, 2017; Zeng et al., 2015). In the contemporary business environment, characterised by the intricate interconnectivity of global supply chains and mounting regulatory pressures, the efficacy of quality management has emerged as a pivotal strategic concern for organisations across diverse industry sectors.

Recent technological advancements, particularly in the field of artificial intelligence (AI), have significantly impacted the evolution of ERP systems. The integration of AI into ERP systems has been shown to facilitate predictive analytics, automated defect detection, and anomaly recognition, thereby extending the functionality of ERP from a mere transactional backbone to a proactive and adaptive enterprise platform (Dwivedi et al., 2021; Panetto et al., 2019). While the role of AI in ERP has received growing attention, research on its application within QM modules remains scarce. Existing literature has primarily focused on general ERP adoption, Total Quality Management (TQM) integration, and vendor comparisons (Davenport, 1998; Sternad, Zabukovšek & Bobek, 2025; Panorama Consulting Group, 2025). However, systematic analyses of ERP vendors' integration of AI into QM and the strategic implications for organisations are limited.

The present study addresses this gap by comparing two leading ERP vendors, SAP and Infor, focusing on their AI-enabled QM modules. SAP and Infor were selected because they represent contrasting strategies in the ERP market. SAP places significant emphasis on comprehensive horizontal integration across various industry sectors. Conversely, Infor has chosen a different strategic approach, focusing on vertical specialisation within specific domains such as manufacturing, healthcare, and distribution.

The primary research question addressed in this paper is: how do SAP and Infor integrate AI into their QM modules, and what are the functional and strategic implications of these approaches?

The article uses a qualitative comparative approach to address this question, drawing upon academic literature, industry reports, and vendor documentation. The contribution is double: firstly, to extend academic understanding of ERP–QM–AI integration and secondly, to provide practical insights for managers evaluating ERP systems in the context of quality management.

The article is structured as follows. The second section concerns an introduction to the ERP landscape and the

definition of the role of QM modules. Section 3 comprehensively reviews the academic and industry literature on ERP, QM, and AI integration. In Section 4, a comparative analysis of SAP and Infor is presented. Section 5 discusses the findings' theoretical and managerial implications, the study's limitations, and potential future research directions. The sixth section of the paper brings it to a conclusion.

The present article employs a desk research approach, synthesising academic literature, industry reports and vendor documentation to conduct a structured comparative review of SAP and Infor quality management modules.

ERP Systems

Definition and Role of ERP in Business

Enterprise Resource Planning (ERP) systems are integrated software platforms that consolidate and manage core business processes across organisational functions. The evolution of these systems can be traced back to the 1990s, where they emerged as an extension of earlier material requirements planning (MRP) systems. Over time, these systems have evolved into comprehensive tools that support various functions, including finance, operations, supply chain management, human resources, and customer relationship management (Bradford, 2015). The centralisation of data and processes is a key feature of ERP systems, which enables information consistency, reduces redundancy, and improves decision-making (Zach et al., 2012).

The role of ERP systems in contemporary organisations extends beyond the pursuit of operational efficiency. They are strategic enablers of business integration, digital transformation, and sustainable growth (NetSuite, 2025). Modern ERP platforms leverage cloud computing and AI to enhance flexibility and scalability, providing organisations with predictive analytics, real-time monitoring, and process automation (Madapusi & D'Souza, 2012; Panetto et al., 2019). Consequently, ERP systems have been shown to optimise internal processes and support strategic initiatives, such as compliance with international standards, customer satisfaction, and competitive differentiation.

ERP Market Landscape

The global ERP market is dominated by a few major vendors—SAP, Oracle, Microsoft, and Infor—while

comprising a wide array of smaller niche providers. According to IDC (2024), the worldwide enterprise applications market, which includes ERP systems, grew by 12% in 2023, highlighting the critical role of ERP systems in driving digital transformation and operational integration.

SAP remains the global leader, with its flagship product SAP S/4HANA Cloud, a modular and cloud-based ERP platform that provides real-time data processing, AI capabilities, and continuous innovation cycles (SAP, 2023). Oracle is a strong competitor to Oracle Fusion Cloud ERP, offering cloud-native design and embedded AI functionalities to automate financial and operational processes for large, cloud-first enterprises (Oracle, 2023). Microsoft Dynamics 365 provides a suite of ERP modules (e.g., Finance, Supply Chain Management) with AI-

powered assistants (Copilot) and tight integration into the Microsoft ecosystem, making it particularly attractive for small and mid-sized enterprises (Microsoft, 2023a; Microsoft, 2023b).

Infor, while smaller in terms of global market share, differentiates itself by focusing on industry-specific verticals such as manufacturing, healthcare, and distribution. Infor CloudSuite builds on the Infor OS platform, embedding AI capabilities tailored to vertical needs (Infor, 2025b; Infor, 2025c).

The comparative characteristics of these leading vendors are summarised in Table 1, highlighting their flagship ERP systems, target markets, and distinctive cloud and AI capabilities.

Table 1

Comparative Overview of Leading ERP Vendors

Vendor	Leading ERP	Target Market	Cloud & AI Capabilities
SAP	SAP S/4HANA Cloud	Multinational and large enterprises across industries	Cloud ERP with embedded AI/ML, real-time analytics, continuous updates
Oracle	Oracle Fusion Cloud ERP	Multinational, cloud-first firms	Cloud-native ERP, embedded AI for automation, prebuilt analytics
Microsoft	Dynamics 365	SMEs and mid-market, Microsoft ecosystem users	AI-powered ERP (Copilot, AI agents), strong integration with Azure and Microsoft 365
Infor	Infor CloudSuite (OS platform)	Manufacturing, healthcare, distribution (industry-specific)	Industry-specific CloudSuite, embedded AI in the OS platform

Source: Adapted from SAP (2023); Oracle (2023); Microsoft (2023a, 2023b); Infor (2025b, 2025c); IDC (2024)

ERP Modules and Quality Management

ERP systems are structured as modular platforms, where each module addresses a specific business function while maintaining integration within a unified database and process architecture. Standard modules include finance, human resources, supply chain management, production, and customer relationship management (Bradford, 2015). The Quality Management (QM) module ensures that products and processes meet predefined standards, supporting operational efficiency and regulatory compliance.

The QM module typically provides inspection planning, quality control, non-conformance tracking, and corrective and preventive actions (CAPA). Its integration with production and supply chain modules enables real-time product quality monitoring, while linkage with procurement and inventory modules supports vendor evaluation and incoming goods inspections (SAP Help Portal, 2025; Mourtzis et al., 2016). By embedding these

quality functions directly into ERP workflows, organisations can reduce redundancy, improve traceability, and consistently comply with quality requirements.

Academic research emphasises that ERP-based QM contributes to operational control and compliance with international standards, such as ISO 9001, and sector-specific quality requirements (Psomas & Antony, 2017). The role of ERP in supporting Total Quality Management (TQM) has also been investigated, with studies highlighting that the alignment of ERP and TQM practices enhances customer satisfaction and organisational performance (Zeng et al., 2015). Moreover, ERP-integrated QM systems enable firms to manage supplier quality, customer feedback, and regulatory audits more systematically, providing strategic benefits beyond mere compliance.

The growing incorporation of AI has expanded the scope of ERP-based quality management. AI-enhanced QM

modules leverage machine learning to predict potential defects, automate inspection processes, and identify root causes more efficiently than traditional rule-based systems. These innovations enable proactive quality management, reduce waste, improve customer satisfaction, and support sustainable production goals (Madapusi & D'Souza, 2012).

Given its cross-functional nature, the QM module represents a critical link between operational excellence and strategic performance, making it particularly suitable for comparative analysis between leading ERP vendors such as SAP and Infor.

Integration of Artificial Intelligence into ERP

Integrating AI into ERP systems has become one of the defining characteristics of the current generation of enterprise applications. While traditional ERP platforms were primarily focused on process standardisation and transactional efficiency, including AI enables predictive, adaptive, and autonomous capabilities that fundamentally reshape how organisations use ERP (NetSuite, 2025).

Typical AI functionalities in ERP include predictive analytics, machine learning-based forecasting, natural language processing (NLP) for enhanced user interaction, and intelligent process automation. These capabilities allow organisations to anticipate demand fluctuations, detect anomalies, optimise supply chain performance, and provide more accurate decision support (Huang & Handfield, 2015). For example, AI-powered quality management modules can proactively identify deviations in production, automate root-cause analysis, and recommend corrective actions, thereby reducing waste and increasing product reliability.

A significant enabler of AI in ERP has been the shift to cloud-native architectures, which provide the necessary computing power and scalability to process large volumes of data in real time (Panetto et al., 2019). Cloud-based ERP platforms integrate seamlessly with data lakes, IoT sensors, and external analytics tools, allowing AI models to be trained and updated continuously. This technological shift supports operational efficiency and strategic objectives, such as sustainability and customer-centric innovation.

As ERP vendors increasingly embed AI directly into their systems, enterprises face new opportunities and challenges, including data governance, ethical considerations, and the need for digital skills

development. These aspects are evident in the offerings of leading vendors, such as SAP and Infor, whose approaches to AI integration will be analysed in the following sections.

Literature Review

ERP Systems in Academic Research

The academic literature has extensively studied ERP systems over the past three decades. Early studies primarily focused on the technological and organisational challenges of ERP implementation, emphasising high costs, process reengineering requirements, and significant failure rates in the 1990s and early 2000s (Davenport, 1998; Holland & Light, 1999). As the market matured, research shifted toward evaluating the strategic benefits of ERP, including process integration, information transparency, and the support of decision-making across organisational levels (Bradford, 2015).

More recent research has positioned ERP systems as enablers of digital transformation. ERP systems are increasingly recognised as organisational backbones that integrate emerging technologies (Sternad Zabukovšek & Bobek, 2025) and serve as catalysts for agility, innovation, and competitiveness (Spathis & Ananiadis, 2005).

Recent industry-driven reports provide insights into real-world ERP deployment outcomes. For example, Panorama Consulting Group's 2023 Clash of the Titans survey, based on 142 implementations, reveals notable differences in project cost, duration, and functional coverage among leading vendors SAP, Oracle, Microsoft, and Infor (Panorama Consulting Group, 2023). The more recent 2025 Clash of the Titans survey, which includes responses from 172 organisations, confirms these variations while also highlighting emerging trends such as the growing role of AI-enabled functionalities, increased cloud adoption, and the rising popularity of industry-specific ERP solutions (Panorama Consulting Group, 2025). These empirical insights complement academic perspectives, emphasising the diversity of ERP adoption strategies and outcomes across industries.

Academic studies underscore differences in ERP adoption between large and small to mid-sized enterprises. Large corporations typically implement comprehensive ERP suites such as SAP, while SMEs often adopt cloud-based or modular ERP solutions with lower implementation risks and costs (Bradford, 2015). This diversity has created

space for vendors to establish themselves in global and niche markets.

Overall, ERP research has evolved from focusing on implementation challenges toward a broader understanding of ERP as a strategic resource, increasingly linked to digitalisation, sustainability, and data-driven business models. This perspective lays the foundation for analysing specific modules, such as QM, and for exploring the integration of AI into ERP platforms.

Quality Management in ERP Context

Integrating QM into ERP systems has been a subject of growing academic and professional interest. Traditionally, quality management relied on standalone systems or manual procedures, but the evolution of ERP platforms enabled QM to become a fully integrated function across organisational processes (Madapusi & D'Souza, 2012). Within ERP, the QM module provides capabilities for inspection planning, in-process quality control, non-conformance management, and corrective and preventive actions (CAPA). These functions ensure that quality requirements are consistently monitored across procurement, production, inventory, and distribution processes.

Academic research emphasises that ERP-based QM contributes to operational control and compliance with international standards, such as ISO 9001, and sector-specific quality requirements (Psomas & Antony, 2017). By embedding quality procedures into core business workflows, ERP systems reduce redundancy, improve traceability, and support a culture of continuous improvement (Mourtzis et al., 2016).

Recent empirical evidence demonstrates the broader organisational impact of integrating QM with ERP. For example, a South African public sector organisation study finds that QM practices mediate the relationship between ERP systems and organisational performance, with organisational culture playing a crucial role (Cebekhulu & Ozor, 2022). A comprehensive literature review of TQM implementation confirms its positive association with employee motivation, innovation capacity, and reward system effectiveness (Hananta & Susyanti, 2024). Moreover, a bibliometric analysis reveals evolving research themes and key clusters in TQM integration within business practice, indicating growing academic attention to its multi-dimensional impact (Susiaty et al., 2024).

The role of ERP in supporting TQM has also been investigated, with studies highlighting that the alignment of ERP and TQM practices enhances customer satisfaction and organisational performance (Zeng et al., 2015). Moreover, ERP-integrated QM systems enable organisations to manage supplier quality, customer feedback, and regulatory audits more systematically, providing strategic benefits beyond mere compliance.

Industry-focused reports confirm these findings. Panorama Consulting Group's Clash of the Titans survey (2023) indicates that QM functionalities are among the differentiators vendors use to compete in manufacturing, healthcare, and distribution industries. In particular, SAP and Infor have invested significantly in embedding AI-enabled capabilities within their QM modules, enabling predictive defect detection, automated inspection processes, and proactive issue resolution. This reflects a broader trend in ERP research and practice. QM is no longer treated as an isolated function but as a strategic element of enterprise integration and digital transformation.

Artificial Intelligence in ERP Systems

Integrating AI into ERP systems represents one of the most significant developments in enterprise technology over the last decade. While traditional ERP systems primarily focused on process standardisation and transaction efficiency, AI extends these capabilities by enabling predictive analytics, autonomous decision-making, and real-time optimisation of business processes (Huang & Handfield, 2015).

Academic research highlights several areas where AI enhances ERP performance. Predictive analytics and forecasting support demand planning and inventory management, while machine learning algorithms automate anomaly detection and root-cause analysis in supply chains (Panetto et al., 2019). Natural language processing and conversational AI improve usability through chatbots and virtual assistants, reducing barriers for non-technical users (Dwivedi et al., 2021; Xu et al., 2025). Furthermore, AI-driven intelligent process automation enables firms to move beyond simple workflow automation toward adaptive processes that continuously learn and improve (Syam & Sharma, 2018).

Recent systematic reviews underline the transformative impact of AI on ERP. Pokala (2024a) identifies thirteen key innovation areas: cognitive computing, predictive

analytics, and edge computing. Pokala (2024b) provides a comprehensive overview of AI integration, emphasising benefits such as workflow automation, personalisation, and improved user experience. At the same time, new experimental models such as FinRobot demonstrate how generative AI agents can autonomously manage financial processes within ERP systems, resulting in fewer errors, improved compliance, and reduced processing energy (Tang et al., 2025). Similarly, conversational ERP models show how large language models (LLMs) can transform natural language into SQL queries, facilitating intuitive user interaction with ERP databases (Xu et al., 2025).

From an industry perspective, AI has become a core differentiator among ERP vendors. SAP integrates AI through its Business Technology Platform and embedded machine learning in SAP S/4HANA, while Infor emphasises industry-specific AI functionalities via its Coleman AI platform. Reports such as Panorama Consulting Group's *Clash of the Titans* (2025; 2023) show that AI-enabled ERP features are increasingly essential for achieving agility, resilience, and sustainability. Similarly, industry analyses indicate that generative AI (GenAI) can reduce ERP implementation costs and accelerate value creation by up to 20–40% (Boston Consulting Group, 2025).

Despite these advantages, challenges remain. Studies emphasise that adopting AI in ERP requires robust data governance, skilled human resources, and careful consideration of ethical and regulatory issues (Dwivedi et al., 2021). Moreover, the effectiveness of AI is highly dependent on data quality and organisational readiness for digital transformation.

The literature indicates that AI transforms ERP from a primarily transactional system into a predictive and adaptive enterprise platform. This transformation provides the foundation for analysing how leading vendors such as SAP and Infor embed AI into their QM modules, which will be the focus of the comparative analysis.

Comparative Analysis of ERP Vendors

Comparative analysis of ERP vendors is valuable in academic and practitioner-oriented literature. While early research focused on implementation challenges, more recent work emphasises strategic differences among leading vendors such as SAP, Oracle, Microsoft, and Infor (Panorama Consulting Group, 2025; 2023). These comparisons evaluate functionality,

implementation cost and duration, user satisfaction, and alignment with industry-specific needs.

SAP is consistently recognised as the market leader, offering comprehensive functionality and strong integration. However, implementation often involves higher costs and longer timelines (Panorama Consulting Group, 2025). Differences in organisational context—especially in SMEs—also shape ERP adoption outcomes, as factors such as limited resources, organisational culture, and user readiness significantly influence the implementation process (Zach et al., 2012). Oracle's cloud-native ERP solutions appeal to firms pursuing cloud-first strategies, while Microsoft Dynamics 365 attracts small and mid-sized enterprises through seamless integration with the Microsoft ecosystem (Panorama Consulting Group, 2025).

Infor sets itself apart with a vertical-market strategy—focusing on manufacturing, healthcare, and distribution. Studies highlight that Infor's specialisation allows faster implementation and tailored functionalities, despite a smaller market share (Haddara & Zach, 2012).

Academic research offers additional insight. Al-Jabri and Roztocki (2015) demonstrate that ERP implementation is influenced not only by technical capabilities but also by perceived information transparency and organisational factors—highlighting that user perceptions and readiness shape vendor acceptance.

In summary, comparative analyses of ERP vendors reveal distinct strengths and trade-offs: SAP excels in breadth, Infor in industry-specific agility, and organisational context (e.g., transparency and acceptance) plays a key role in vendor selection (Sternad Zabukovšek & Bobek, 2025). These insights form the foundation for the present study's comparative analysis of AI-enabled QM in SAP and Infor modules.

Research Gap

The literature reviewed demonstrates that ERP systems are well established as strategic enablers of business integration and digital transformation (Bradford, 2015; Sternad Zabukovšek & Bobek, 2025). Research has extensively examined ERP implementation challenges, adoption drivers, and organisational impacts across sectors and regions (Davenport, 1998; Holland & Light, 1999; Al-Jabri & Roztocki, 2015). Similarly, QM studies highlight the importance of ERP integration for compliance, operational efficiency, and continuous

improvement (Madapusi & D'Souza, 2012; Psomas & Antony, 2017; Zeng et al., 2015).

In recent years, the role of AI has attracted growing academic and industry attention. Scholars have shown that AI enhances ERP with predictive analytics, machine learning, and natural language processing, enabling more adaptive and proactive decision-making (Dwivedi et al., 2021; Pokala, 2024a, 2024b). New experimental models, such as generative AI agents for ERP finance (Tang et al., 2025) and conversational ERP systems (Xu et al., 2025), further demonstrate the transformative potential of AI at the module level. Industry reports likewise emphasise that AI-enabled ERP can significantly reduce costs and improve organisational agility (Panorama Consulting Group, 2025; Boston Consulting Group, 2025).

However, despite this momentum, integrating AI into ERP modules—particularly those supporting QM—remains underexplored in the academic literature. Comparative analyses of ERP vendors are available, yet they primarily address broad issues such as market share, implementation outcomes, and general adoption trends (Panorama Consulting Group, 2023, 2025). Few studies explicitly examine how leading vendors such as SAP and Infor integrate AI into their QM modules, nor do they systematically compare these approaches' functional and strategic implications.

This gap is especially relevant as organisations increasingly view AI-enabled QM as a driver of sustainable operations, regulatory compliance, and customer satisfaction. The present study addresses this research gap by conducting a comparative analysis of AI integration in the QM modules of SAP and Infor. By combining insights from academic research and industry reports, this article contributes to understanding how ERP vendors differentiate their AI strategies in the QM domain and what implications these differences hold for organisations seeking to leverage ERP for digital transformation and sustainability.

Comparative Analysis of AI in Quality Management Modules

Research Approach

This study adopts a qualitative comparative approach to analyse the integration of AI into the QM modules of two leading ERP vendors, SAP and Infor. The purpose is to examine how each vendor embeds AI in quality-related

processes and what strategic implications these differences may hold for organisations.

The analysis is based on secondary data sources, including peer-reviewed academic research, industry reports (e.g., Panorama Consulting Group, Boston Consulting Group), and vendor documentation (e.g., SAP Help Portal, Infor product documentation). The study ensures theoretical grounding and practical relevance by triangulating these sources.

The methodological foundation follows the logic of qualitative content analysis, which enables the systematic categorisation of patterns and themes from textual and documentary evidence (Hsieh & Shannon, 2005). Additionally, the comparative orientation of the study draws on case study research principles, where multiple cases—in this instance, SAP and Infor—are examined to highlight both unique and common characteristics (Yin, 2018).

The comparative framework focuses on three dimensions:

- Functional scope – the extent to which AI enhances traditional QM functionalities such as inspection planning, defect detection, and corrective and preventive actions (CAPA).
- Integration and interoperability – how AI-enabled QM modules interact with other ERP components (e.g., production, supply chain, compliance management).
- Strategic impact – the role of AI in supporting broader organisational objectives such as digital transformation, sustainability, and regulatory compliance.

This structured approach systematically compares SAP and Infor, highlighting functional differences and their implications for organisations seeking to leverage AI-enabled ERP solutions in QM.

SAP QM Module with AI

SAP's QM module, integrated within SAP S/4HANA, provides comprehensive support for quality planning, inspection, and control across the value chain. Core functionalities include inspection planning, quality notifications, defect recording, and corrective and preventive actions (CAPA), all embedded within procurement, production, and inventory processes (SAP Help Portal, 2025).

A distinguishing feature of SAP's approach is the integration of AI capabilities via the SAP Business Technology Platform. Embedded machine learning models enable predictive quality analytics, early defect detection, and automated anomaly recognition during production. For instance, predictive algorithms analyse historical inspection data to identify potential non-conformities before they occur, thereby reducing waste and enhancing compliance with ISO 9001 and industry-specific standards.

Moreover, SAP's QM module benefits from end-to-end integration with other ERP components such as supply chain, manufacturing, and asset management. This interoperability allows real-time product quality and vendor performance monitoring, strengthening internal process control and external supplier collaboration. As industry reports highlight, SAP's AI-enabled QM functionalities are perceived as strategic tools for improving customer satisfaction, sustainability, and regulatory compliance (Panorama Consulting Group, 2025; Boston Consulting Group, 2025).

Infor QM Module with AI

Infor differentiates itself in the ERP market through its strong industry-specific focus, particularly manufacturing, healthcare, and distribution. This orientation is reflected in its Infor CloudSuite Quality Management (QMS) module, which supports a broad set of quality-related processes, including non-conformance tracking, document management, corrective and preventive actions (CAPA), supplier quality control, and compliance with standards such as ISO, FDA, and AS9100 (Infor, 2025e). By embedding these functionalities directly within CloudSuite Industrial (SyteLine) and other industry-specific suites, Infor enables organisations to integrate quality assurance across procurement, production, and distribution processes.

Infor has also strengthened its QM capabilities by partnering with ETQ Reliance, a leading SaaS-based QMS solution. ETQ extends CloudSuite functionality by enabling advanced product specifications, quality checks at goods receipt, in-production inspections, and compliance monitoring across global operations (Infor, 2025d). This integration allows organisations to align QM with sectoral regulations and achieve greater traceability in complex supply chains.

AI is central to Infor's strategy, which is delivered through the Coleman AI platform. Coleman AI leverages Infor OS and Data Fabric to enable predictive analytics, machine

learning-driven root cause analysis, and anomaly detection across the quality lifecycle (Infor, 2025a). For example, manufacturers can integrate IoT sensor data with Coleman AI to predict real-time quality deviations, enabling proactive interventions before defects occur.

More recently, Infor expanded its AI portfolio with Infor GenAI, which was developed in collaboration with AWS. This platform integrates generative AI capabilities into CloudSuite applications, enabling use cases such as automated content generation, natural language interaction, and industry-specific process optimisation (Infor & AWS, 2024). These innovations reflect Infor's broader approach of embedding intelligent technologies into vertical ERP systems, aiming to improve compliance, reduce waste, and accelerate digital transformation in targeted industries.

Comparative Discussion

The comparative analysis highlights distinct approaches taken by SAP and Infor to embed AI into their QM modules. While both vendors integrate advanced AI functionalities to enhance quality assurance processes, their strategies differ significantly in scope, integration, and strategic orientation.

SAP emphasises horizontal scalability and comprehensive coverage across industries. Its QM module, part of SAP S/4HANA, delivers a broad suite of functionalities, including inspection planning, defect recording, quality notifications, corrective and preventive actions (CAPA), and supplier evaluation (SAP Help Portal, 2025). AI capabilities are integrated through the SAP Business Technology Platform, supporting predictive analytics, anomaly detection, and real-time compliance monitoring. These features strengthen enterprise-wide consistency, improve customer satisfaction, and facilitate sustainable operations (Panorama Consulting Group, 2025; Boston Consulting Group, 2025).

By contrast, Infor adopts a strategy of vertical specialisation, tailoring its QM functionalities to the specific needs of industries such as manufacturing, healthcare, and distribution. The Infor CloudSuite QMS provides specialised compliance with ISO, FDA, and AS9100 standards and is enhanced through integration with ETQ Reliance, a SaaS-based quality management system (Infor, 2025e). Its AI capabilities are delivered primarily via the Coleman AI platform, which supports predictive defect detection, machine learning-based root-cause analysis, and real-time anomaly recognition (Infor, 2025a). In addition, Infor's collaboration with AWS

has resulted in Infor GenAI, bringing generative AI functionalities into CloudSuite to enable automated content creation, process optimisation, and natural language interactions (Infor & AWS, 2024).

The key differences between SAP and Infor, particularly in terms of functionalities and strategic orientation toward AI-enabled QM, are summarised in Table 2.

Table 2

Comparative Overview of SAP vs. Infor QM Modules with AI

Dimension	SAP S/4HANA QM	Infor CloudSuite QM
Functional scope	Comprehensive QM functions include inspection planning, defect recording, quality notifications, CAPA, vendor evaluation, compliance with ISO 9001, and industry standards (SAP Help Portal, 2025). AI enhances predictive quality analytics, anomaly detection, and automated defect prediction.	QMS tailored to industry-specific needs (manufacturing, healthcare, distribution). Functions include non-conformance tracking, document management, CAPA, supplier quality control, and compliance with ISO, FDA, and AS9100 (Infor, 2025a, 2025e). AI supports root-cause analysis, predictive defect detection, and real-time monitoring.
Integration & interoperability	Strong end-to-end integration across ERP components (supply chain, production, asset management). AI integrated via SAP Business Technology Platform ensures seamless data flow and cross-process quality management (Panorama Consulting Group, 2025).	Integrated with Infor OS and extended by ETQ Reliance SaaS QMS, providing advanced inspections, compliance monitoring, and product specifications. AI embedded in Infor OS Data Fabric and Coleman AI platform ensures vertical interoperability (Infor, 2025a; Infor, 2025e).
AI capabilities	Embedded AI/ML models for predictive quality analytics, anomaly recognition, real-time monitoring, and proactive compliance support. Focus on scalability and enterprise-wide automation (Boston Consulting Group, 2025).	Coleman AI platform provides predictive analytics, ML-driven root cause analysis, and anomaly detection; Infor GenAI (with AWS) adds generative AI for content creation, process optimisation, and natural language interaction (Infor, 2025a; Infor & AWS, 2024).
Strategic impact	Focus on broad horizontal coverage across industries. AI in QM enhances customer satisfaction, sustainability, and compliance at enterprise scale (Panorama Consulting Group, 2025).	Focus on vertical specialisation: faster implementation and sector-specific compliance alignment. AI and GenAI enable industry-tailored innovation, waste reduction, and regulatory alignment (Infor & AWS, 2024).

Discussion

The comparative analysis of SAP and Infor demonstrates two distinct approaches to integrating AI into QM modules. SAP emphasises breadth, offering a horizontally scalable and comprehensive solution suitable for enterprises operating across multiple industries. Its AI-enabled QM functionalities are embedded in the SAP S/4HANA environment, delivering predictive quality analytics, real-time anomaly detection, and compliance monitoring across the entire value chain (SAP Help Portal, 2025; Panorama Consulting Group, 2025). This breadth positions SAP as a digital core for organisations seeking to standardise global processes, achieve consistent compliance, and leverage AI at an enterprise scale.

Infor, by contrast, emphasises depth. Through its CloudSuite platform, Infor delivers QM functionalities that are highly specialised for industries such as manufacturing, healthcare, and distribution. The

integration of ETQ Reliance extends compliance and inspection capabilities, while the Coleman AI platform enables predictive analytics and root-cause analysis tailored to sector-specific needs (Infor, 2025a, 2025e). The recent addition of Infor GenAI, in collaboration with AWS, further illustrates Infor's commitment to embedding cutting-edge AI in vertical solutions, enabling generative use cases such as content automation and natural language interactions (Infor & AWS, 2024).

These findings highlight that the two vendors represent complementary strategies: SAP leverages its global reach and broad functionality to deliver scalability and integration, while Infor differentiates itself through agility, faster implementation, and industry-specific customisation. This contrast reflects broader patterns in ERP research, where systems are increasingly viewed as strategic enablers of digital transformation and vehicles for industry-specific innovation (Sternad Zabukovšek & Bobek, 2025). For organisations, the choice between SAP and Infor depends largely on strategic priorities—

whether the objective is global standardisation, enterprise-wide scalability, or sector-specific alignment and rapid adaptability.

The findings of this study contribute to the academic literature on ERP systems and QM in several ways. First, the comparative analysis of SAP and Infor highlights how differences in vendor strategies—horizontal breadth versus vertical depth—manifest in designing and applying AI-enabled QM modules. This provides empirical support to prior research that emphasised the role of ERP systems as both transactional backbones and strategic enablers of digital transformation (Bradford, 2015; Sternad Zabukovšek & Bobek, 2025).

Second, the study extends the ERP and TQM integration literature. Previous work has shown that embedding quality procedures within ERP workflows supports compliance, operational efficiency, and continuous improvement (Psomas & Antony, 2017; Zeng et al., 2015). Our findings suggest that AI further amplifies these benefits by enabling predictive defect detection, automated anomaly recognition, and advanced compliance monitoring. This indicates that AI is a technological add-on and a catalyst that reshapes the conceptual link between ERP and TQM.

Third, the analysis provides insight into how industry-specific ERP solutions contribute to academic debates on organisational alignment. While traditional ERP studies often emphasised universal best practices (Davenport, 1998; Holland & Light, 1999), the case of Infor demonstrates that vertical specialisation can be equally important for ensuring system adoption and value creation in specific contexts. This aligns with research that stresses the significance of organisational readiness, contextual adaptation, and sectoral requirements in ERP implementation (Al-Jabri & Roztock, 2015; Zach et al., 2012).

Finally, the study adds to emerging research on AI in enterprise systems. While prior research has primarily addressed AI in terms of forecasting, anomaly detection, and intelligent automation (Dwivedi et al., 2021; Panetto et al., 2019), our analysis illustrates how AI integration within QM modules directly supports sustainability, compliance, and customer satisfaction. This highlights a need for future theoretical models to explicitly consider AI-enabled quality management as a distinct dimension of ERP value creation.

This study is among the first to systematically compare how leading ERP vendors integrate AI into their Quality

Management modules. The article extends prior literature on ERP adoption and TQM integration by linking ERP research with the emerging field of AI-enabled quality management.

The comparative findings of this study carry several implications for managers and decision-makers considering ERP investments with a focus on QM and AI.

First, the results suggest that vendor selection should be aligned with organisational strategy. SAP is most suitable for enterprises seeking broad, horizontally scalable solutions that ensure consistency and compliance across diverse operations. Its AI-enabled QM capabilities offer robust predictive analytics and integration across the entire ERP landscape, making it particularly attractive for multinational firms aiming for global standardisation.

Second, highly regulated or industry-specific organisations may find greater value in Infor's vertical specialisation. ETQ Reliance and Coleman AI integration provides tools tailored to manufacturing, healthcare, and distribution, supporting regulatory compliance and enabling rapid deployment of predictive and generative AI use cases. Managers in such industries can benefit from faster implementation cycles and solutions closely aligned with sectoral best practices.

Third, the study underscores the importance of AI readiness as a prerequisite for ERP success. SAP and Infor embed AI into QM, but the organisational benefits depend on data governance, staff competencies, and cultural readiness for digital transformation. Managers must therefore invest in building digital skills and ensuring high-quality data to fully realise the potential of AI-enabled ERP systems (Dwivedi et al., 2021).

Finally, decision-makers should recognise that ERP is no longer merely an operational tool but a strategic enabler of sustainability, customer satisfaction, and regulatory compliance. The findings suggest that choosing between SAP and Infor is not solely a matter of cost or functionality but involves broader strategic considerations about scalability, agility, and innovation.

For managers, particularly in manufacturing- and service-intensive economies such as Slovenia, the findings provide actionable guidance for ERP evaluation. Organisations must weigh the enterprise-wide scalability offered by SAP against the industry-specific agility provided by Infor, while ensuring readiness for AI adoption through investments in data governance, workforce skills, and change management.

While this study provides valuable insights into integrating AI within QM modules of leading ERP vendors, several limitations should be acknowledged. First, the analysis is based on secondary sources, including academic literature, industry reports, and vendor documentation.

Although this approach enables triangulation and broad coverage, it does not capture the full depth of implementation experiences within organisations. Future research could complement these findings with primary data, such as case studies or practitioner interviews, to provide richer empirical evidence.

Second, the study focuses exclusively on two ERP vendors—SAP and Infor. While these systems represent significant and contrasting approaches, other major providers such as Oracle and Microsoft offer AI-enabled QM functionalities that merit investigation. Comparative studies including a wider set of vendors would provide a more comprehensive view of market dynamics.

Third, the rapid pace of technological development in AI presents research challenges. AI capabilities embedded in ERP platforms evolve continuously, with frequent updates and innovations. Consequently, the findings presented here reflect the state of ERP offerings at the time of writing and may require ongoing reassessment to remain relevant.

Finally, this study does not address AI integration's ethical and organisational challenges, such as data privacy, algorithmic transparency, and employee acceptance. Future research could explore these dimensions to understand better the risks and governance mechanisms associated with AI in ERP quality management.

In summary, future work should combine qualitative and quantitative methods, expand the scope of vendors analysed, and investigate the organisational, ethical, and strategic consequences of AI-enabled ERP systems. Such research would provide a more holistic understanding of how AI reshapes quality management in enterprise contexts.

Conclusion

This study examined the integration of AI into the QM modules of two leading ERP vendors, SAP and Infor. By

conducting a comparative analysis based on secondary sources, the article highlighted how these vendors pursue different strategies: SAP emphasises horizontal breadth, offering enterprise-wide scalability and integration, while Infor focuses on vertical depth, tailoring its solutions to industry-specific requirements and accelerating innovation through AI and generative AI.

The findings contribute to the academic literature by showing how AI enhances traditional QM functionalities—such as inspection planning, defect detection, and corrective and preventive actions—and transforms ERP systems into strategic platforms that support compliance, sustainability, and customer satisfaction. The analysis further underscores that the choice of ERP vendor is shaped not only by functional considerations but also by broader strategic priorities, such as global standardisation versus industry-specific agility.

From a managerial perspective, the study demonstrates that organisations must align ERP selection with their strategic objectives and readiness for AI adoption. Investments in data governance, digital skills, and organisational change are crucial for realising the potential of AI-enabled ERP systems.

Although limited to secondary data and two vendors, the study opens pathways for future research that integrates primary case evidence, broadens the scope to additional ERP providers, and examines ethical and governance challenges of AI in enterprise contexts.

In conclusion, AI-enabled QM represents a key frontier in ERP development. By comparing SAP and Infor, this article provides insights into how ERP vendors differentiate their strategies and how organisations can leverage these differences to drive digital transformation, regulatory compliance, and sustainable performance.

The article contributes to academic and practitioner-oriented debates by bridging ERP, QM, and AI. It highlights that AI-enabled QM is not merely an add-on feature but a strategic capability to drive compliance, sustainability, and competitive differentiation. This perspective advances ERP research and provides practical insights for decision-makers in digitally transforming organisations.

References

- Al Jabri, I. M., & Roztock, N. (2015). Adoption of ERP systems: Does information transparency matter? *Telematics and Informatics*, 32(2), 300–310. DOI: <https://doi.org/10.1016/j.tele.2014.09.005>
- Boston Consulting Group. (2025). *GenAI can revolutionise ERP transformations*. BCG. Retrieved from <https://www.bcg.com/publications/2025/gen-ai-can-revolutionize-erp-transformations>
- Bradford, M. (2015). *Modern ERP: Select, implement, and use today's advanced business systems*. Lulu Press.
- Cebekhulu, B. M. B., & Ozor, P. A. (2022). The influence of quality management and ERP systems on organisational culture and performance. *Proceedings on Engineering Sciences*, 4(1), 41–50. DOI: <https://doi.org/10.24874/PES04.01.007>
- Davenport, T. H. (1998). Putting the enterprise into the enterprise system. *Harvard Business Review*, 76(4), 121–131. DOI: <https://hbr.org/1998/07/putting-the-enterprise-into-the-enterprise-system>
- Davenport, T. H., & Ronanki, R. (2018). Artificial intelligence for the real world. *Harvard Business Review*, 96(1), 108–116. DOI: <https://hbr.org/2018/01/artificial-intelligence-for-the-real-world>
- Dwivedi, Y. K., Hughes, L., Kar, A. K., Baabdullah, A. M., Grover, P., Abbas, R., & Wright, A. H. (2021). Artificial Intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management*, 57. DOI: <https://doi.org/10.1016/j.ijinfomgt.2019.08.002>
- Gartner. (2023). *ERP market trends*. Retrieved from <https://www.gartner.com/en/documents/5525695>
- Haddara, M., & Zach, O. (2012). ERP systems in SMEs: An extended literature review. *International Journal of Information Science*, 2(6), 106–116. DOI: <https://doi.org/10.5923/j.ijis.20120206.06>
- Hananta, S. A., & Susyanti, J. (2024). Implementation of Total Quality Management (TQM) in organisations and business: A literature review. *International Journal of Economics and Management Research*, 3(2), 322–332. DOI: <https://ijemr.asia/index.php/ijemr/article/view/227>
- Holland, C. P., & Light, B. (1999). A critical success factors model for ERP implementation. *IEEE Software*, 16(3), 30–36. DOI: <https://doi.org/10.1109/52.765784>
- Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277–1288. DOI: <https://doi.org/10.1177/1049732305276687>
- Huang, Y.-Y., & Handfield, R. B. (2015). Measuring the benefits of ERP on supply management maturity model: A "big data" method. *International Journal of Operations & Production Management*, 35(1), 2–25. DOI: <https://doi.org/10.1108/IJOPM-07-2013-0341>
- IDC. (2024). *Worldwide Enterprise Applications Revenue Grew 12.0% in 2023 and Is Forecast to Surpass \$600 Billion in 2028, According to IDC*. IDC. Retrieved from <https://my.idc.com/getdoc.jsp?containerId=prUS52371124>
- Infor. (2025a). *Infor Coleman AI platform: Data sheet*. Infor. Retrieved from https://181151.fs1.hubspotusercontent-na1.net/hubfs/181151/downloads/infor_coleman_ai.pdf
- Infor. (2025b). *Infor OS: A complete overview*. Infor. Retrieved from <https://www.infor.com/resources/infor-os-a-complete-overview>
- Infor. (2025c). *Infor CloudSuite platform brochure*. Infor. Retrieved from <https://www.infor.com/resources/infor-cloudsuite-platform>
- Infor. (2025d). *Infor Complements its Industry Cloud Platform with Enterprise Quality Management and Environmental, Health & Safety Solutions from ETQ*. Infor. Retrieved from <https://www.infor.com/news/infor-partners-with-etq>
- Infor. (2025e). *Infor CloudSuite Quality Management (QMS) module: Functionalities and standards supported*. Infor. [Available from Infor CloudSuite Industrial Quality Management (QMS) Module]
- Infor & AWS. (2024). *Bringing the power of AWS generative AI to Infor's industry-first approach*. Infor. Retrieved from <https://www.infor.com/blog/bringing-the-power-of-aws-generative-ai-to-infor>
- Madapusi, A., & D'Souza, D. (2012). The influence of ERP system implementation on the operational performance of an organisation. *International Journal of Information Management*, 32(1), 24–34. DOI: <https://doi.org/10.1016/j.ijinfomgt.2011.06.004>
- Microsoft. (2023a). *What is ERP?* Microsoft. Retrieved from <https://www.microsoft.com/en-us/dynamics-365/resources/what-is-erp>
- Microsoft. (2023b). *AI-Powered ERP Solutions - Dynamics 365*. Microsoft. Retrieved from <https://www.microsoft.com/en-us/dynamics-365/solutions/erp>
- Mourtzis, D., Vlachou, E., & Milas, N. (2016). Industrial big data as a result of IoT adoption in manufacturing. *Procedia CIRP*, 55, 290–295. DOI: <https://doi.org/10.1016/j.procir.2016.07.038>
- NetSuite. (2025). *8 ERP trends and 4 predictions for 2025 & beyond*. NetSuite. Retrieved from <https://www.netsuite.com/portal/resource/articles/erp/erp-trends.shtml>
- Oracle. (2023). *Oracle Fusion Cloud ERP*. Oracle. Retrieved from <https://www.oracle.com/erp/>

- Panetto, H., lung, B., Ivanov, D., Weichhart, G., & Wang, X. (2019). Challenges for the cyber-physical manufacturing enterprises of the future. *Annual Reviews in Control*, 47, 200–213. DOI: <https://doi.org/10.1016/j.arcontrol.2019.02.002>
- Panorama Consulting Group. (2023). *2023 Clash of the Titans: SAP vs. Oracle vs. Microsoft vs. Infor*. Panorama Consulting Group. Retrieved from <https://4439340.fs1.hubspotusercontent-na1.net/hubfs/4439340/Reports/Clash%20of%20the%20Titans/2023-Clash%20of%20the%20Titans%20-%20Panorama%20Consulting%20Group.pdf>
- Panorama Consulting Group. (2025). *2025 Clash of the Titans: SAP vs. Oracle vs. Microsoft vs. Infor*. Panorama Consulting Group. Retrieved from <https://dam.infor.com/api/public/content/950efa0c7d3447fab9fe1b3f77c96c80?v=dc24bef1>
- Pokala, P. (2024a). Artificial intelligence in enterprise resource planning: A systematic review of innovations, applications, and future directions. *SSRN*. DOI: <https://doi.org/10.5281/zenodo.14170247>
- Pokala, P. (2024b). The integration and impact of artificial intelligence in modern ERP systems: A comprehensive review. *SSRN*. DOI: <https://doi.org/10.5281/zenodo.14050064>
- Psomas, E., & Antony, J. (2017). Total quality management elements and results in higher education institutions: The Greek case. *Quality Assurance in Education*, 25(2), 206–223. DOI: <https://doi.org/10.1108/QAE-08-2015-0033>
- SAP Help Portal. (2025). *Quality Management (QM) – SAP S/4HANA*. SAP. Retrieved from https://help.sap.com/docs/SAP_S4HANA_ON-PREMISE/9905622a5c1f49ba84e9076fc83a9c2c/e2f8f94be737403696eeea0e2be80d87.html
- SAP. (2023). *What is SAP Cloud ERP?* SAP. Retrieved from <https://www.sap.com/products/s4hana-erp.html>
- Spathis, C., & Ananiadis, J. (2005). Assessing the benefits of using an enterprise system in accounting information and management. *Journal of Enterprise Information Management*, 18(2), 195–210. DOI: <https://doi.org/10.1108/17410390510579918>
- Sternad Zabukovšek, S., & Bobek, S. (2025). Using the technology acceptance model for factors influencing acceptance of enterprise resource planning solutions. In M. Khosrowpour (Ed.), *Encyclopedia of information science and technology* (6th ed., pp. 1–28). IGI Global. DOI: <https://doi.org/10.4018/978-1-6684-7366-5.ch073>
- Susiati, D., Judijanto, L., Suprayitno, D., & Suarni, E. (2024). Integration of Total Quality Management (TQM) in business practice: A bibliometric analysis. *West Science Business and Management*, 2(1), 56–63. DOI: <https://doi.org/10.58812/wsbm.v2i01.736>
- Syam, N., & Sharma, A. (2018). Waiting for a sales renaissance in the fourth industrial revolution: Machine learning and artificial intelligence in sales research and practice. *Industrial Marketing Management*, 69, 135–146. DOI: <https://doi.org/10.1016/j.indmarman.2017.12.019>
- Tang, Y., Sun, Y., & Xu, H. (2025). FinRobot: Generative business process AI agents for ERP in finance. *arXiv preprint arXiv:2506.01423*. Retrieved from <https://arxiv.org/abs/2506.01423>
- Xu, Z., Zhang, W., & Li, J. (2025). Chatting with your ERP: A recipe. *arXiv preprint arXiv:2507.23429*. Retrieved from <https://arxiv.org/abs/2507.23429>
- Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). SAGE Publications.
- Zach, O., Munkvold, B. E., & Olsen, D. H. (2012). ERP system implementation in SMEs: Exploring the influences of the SME context. *Enterprise Information Systems*, 8(2), 309–335. DOI: <https://doi.org/10.1080/17517575.2012.702358>
- Zeng, J., Phan, C. A., & Matsui, Y. (2015). The impact of hard and soft quality management on quality and innovation performance: An empirical study. *International Journal of Production Economics*, 162, 216–226. DOI: <https://doi.org/10.1016/j.ijpe.2014.07.006>

Umetna inteligenca v moduli za upravljanje kakovosti v ERP: primerjalna analiza SAP in Infor

Izvleček

Celovite informacijske rešitve (ERP) so priznane kot strateški spodbujevalci digitalne transformacije, saj omogočajo integracijo ključnih poslovnih funkcij in podpirajo operativno učinkovitost. Med njihovimi moduli ima modul za upravljanje kakovosti (QM) ključno vlogo pri zagotavljanju skladnosti, ohranjanju konkurenčnosti in spodbujanju nenehnih izboljšav. Nedavni razvoj na področju umetne inteligence (UI) je dodatno razširil potencial ERP sistemov z naprednimi analitičnimi zmogljivostmi, prepoznavanjem odstopanj in inteligentno avtomatizacijo procesov. Kljub temu integracija UI v QM module ERP sistemov še ni bila sistematično obravnavana v akademskih raziskavah. Prispevek naslavlja to raziskovalno vrzel s primerjalno analizo dveh vodilnih ponudnikov ERP sistemov, SAP in Infor, s poudarkom na njunih UI-podprtih QM moduli. Na podlagi pregleda akademske literature, industrijskih poročil in dokumentacije ponudnikov analiza pokaže, da SAP poudarja horizontalno širino in QM obravnava kot del globalnega digitalnega jedra, medtem ko se Infor osredotoča na vertikalno poglobljenost, svoje QM funkcionalnosti prilagaja specifičnim industrijam ter jih krepi z rešitvami UI in generativne UI. Ugotovitve prispevajo tako k teoriji kot k praksi, saj pokažejo, kako se ponudniki ERP razlikujejo v pristopih k integraciji UI v upravljanje kakovosti. Raziskava nadgrajuje literaturo o povezovanju ERP in celovitega obvladovanja kakovosti (TQM), poudarja strateško vlogo UI pri oblikovanju dodane vrednosti ERP ter ponuja menedžerske usmeritve za podjetja, ki ocenjujejo ERP rešitve v kontekstu zagotavljanja kakovosti, trajnostnega razvoja in digitalne transformacije.

Ključne besede: sistemi ERP; modul za upravljanje kakovosti (QM); umetna inteligenca (UI); SAP; Infor; primerjalna analiza; digitalna transformacija.