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Research Article

Intelligent Automation in SAP Credit Release: Eliminating Manual Bottlenecks in Sales Order Processing

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Abstract:

Effective credit management in high-volume manufacturing and distribution environments, such as the SAP ERP Central Component (ECC), is crucial for maintaining an enterprise's financial stability. Despite its critical role in risk management, the sales Order credit block mechanism inherently causes substantial operational delays. This study investigates how the manual resolution of credit blocks in traditional SAP ECC leads to unpredictable bottlenecks in the order-to-cash cycle, adversely affecting delivery delays, working capital, delaying cash collection, and diminishing the customer experience. By substituting inefficient manual processes with a rapid, consistent, and transparent automated system, organizations can significantly mitigate, thereby directly expediting the cash conversion cycle. This study demonstrates that the architectural shift from manual ECC workflows to intelligent automation in S/4HANA and BTP represents a fundamental paradigm shift, enabling proactive risk management rather than reactive bottleneck resolution.

1. Introduction

In the landscape of enterprise resource planning, credit management is a critical function that balances the drive for sales with the imperative to mitigate financial risk [1]. For decades, the process within SAP ECC has been a functional, albeit rigid, gatekeeper. Sales orders that breach predefined credit limits are methodically blocked, triggering a manual resolution workflow that has traditionally introduced a significant operational drag. This reliance on human intervention leads to delivery delays, strained customer relationships, and a direct negative impact on revenue recognition and working capital [2]. Although the classic system is effective at stopping transactions, it was not designed for the speed and intelligence required by modern digital businesses. While much of the literature on credit management focuses on high-level financial risk modeling [3], the specific granular operational bottlenecks created by legacy ECC workflows remain underexplored in academic research. To address this gap, this study utilizes a comparative technical analysis to investigate the evolution from the manual to the automated credit block release process. We begin by deconstructing the "as-is" state in SAP ECC, detailing the problems inherent in manual resolution. Subsequently, we analyze the intelligent transformation enabled by S/4HANA and BTP, demonstrating how these platforms simplify and automate the credit management lifecycle with reported benefits, such as a 30% reduction in manual workload [4].

2. Credit Blocks in the SAP ECC - Order to Cash Process

At its core, credit management serves a dual purpose: it must enable sales by extending credit to customers while simultaneously protecting the organization from the financial risks of non-payment or bad debt [5]. It is a fundamental control point within the overarching Order-to-Cash (O2C) business process, acting as a financial gatekeeper that ensures the company transacts with customers who are likely to meet their payment obligations [6]. When a sales order is created or changed significantly, the system automatically performs a credit check based on the customer's credit profile and the value of the order. This check is governed by a set of predefined rules and configurations in the SAP system. If a customer's creditworthiness is

deemed insufficient, the sales order is automatically blocked for further processing, preventing the creation of a delivery and subsequent shipment of goods.

A crucial distinction exists between the two main types of automatic credit checks:

Static Credit Check: This is a straightforward check. It calculates the customer's total credit exposure - the sum of the current sales order value plus all existing open orders, open deliveries, open invoices, and accounts receivable—and compares this total against the customer's credit limit [7]. It is a comprehensive but blunt instrument that treats a sales order due for delivery tomorrow as the same as one due in six months.

Dynamic Credit Check: This method offers more sophistication by acknowledging the time-based nature of credit risk. It splits credit exposure into two parts: a static component (open receivables, deliveries, and invoices) and a dynamic component (the value of open sales orders). The key feature of the dynamic check is the credit horizon, which is a configurable period (e.g., 30, 60, or 90 days) [7]. The system only includes the value of open sales orders scheduled for delivery within this horizon for the calculation. Orders due for delivery beyond the horizon are not considered. This provides a more realistic view of near-term credit risk and prevents long-term future orders from consuming the customer's available credit.

Beyond these primary checks, a sales order can also be blocked for other reasons configured in OVA8, such as:

Oldest Open Items: The customer has an open invoice that is overdue by more than a specified number of days [7].

Maximum Percentage of Open Items: The total value of overdue items exceeds a defined percentage of the customer's total receivables [7].

Maximum Document Value: The value of a single sales order being created exceeds a predefined threshold [7].

Expired Next Review Date: The customer's credit file is due for a manual review [7].

The architecture of the classic SAP ECC credit management system is both powerful and deterministic. However, this deterministic nature is a primary limitation. The logic is entirely preconfigured; it is a matrix of keys (Credit Control Area, Risk Category, Group) that points to a rigid set of rules in the OVA8 transaction [7]. The process is a binary "pass/fail" gatekeeper with minimal standard functionality for context-aware decision-making. This rigidity often results in a high number of "false positive" blocks—orders that are blocked for reasons that are technically correct according to the configuration but are commercially undesirable. This, in turn, creates a significant manual workload for the credit department, setting the stage for the operational bottlenecks and business problems explored in the next section of this paper.

3. The Manual Bottleneck in SAP ECC: Releasing Blocks and the Cost of Delay

Once a sales order is blocked, it enters a state of suspension and cannot proceed to delivery and fulfillment until a credit representative takes the explicit action. The resolution process followed a consistent manual pattern.

1. Identification: The first step for the credit team is to identify the blocked documents. This is typically done by running reports such as VKM1, VKM2, VKM3, or VKM4, which provide a list of all sales documents blocked for credit reasons [7]. These reports are the daily worklists for credit analysts.

2. Analysis: The analyst must investigate why an order is blocked from the credit-blocked worklist. This decision-making process involves a thorough review of the customer's credit master data (transaction FD32), which contains information about their credit limit, payment history, risk category, and total credit exposure [8]. The representative may also need to consult the sales department or customer to gather additional information.

3. Release Action: Based on this analysis, the credit analyst makes a judgment. If the decision is to release the order, they select the list of blocked documents and click the "Release" icon (typically a green flag). This is a purely manual action based on the discretion of the analyst.

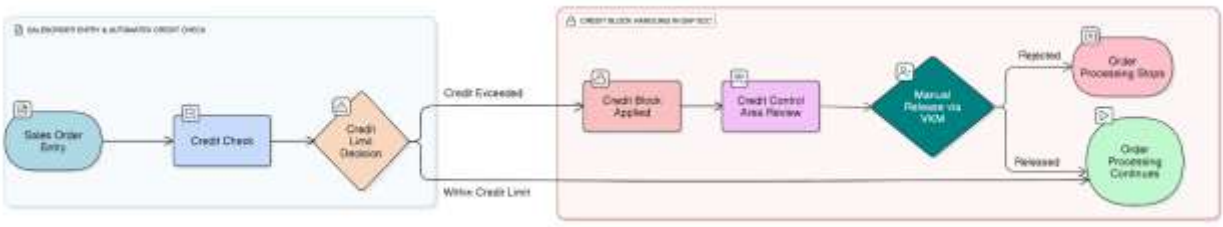

Figure 1. *Credit block release process in SAP ECC*

The manual nature of the release workflow directly translates into delivery delays and a cascade of negative business consequences for companies.

- **Degraded Customer Satisfaction:** In today's competitive market, on-time delivery is a baseline expectation. Late shipments are the primary cause of customer dissatisfaction. A poor delivery experience can lead to negative online reviews, loss of customer loyalty and repeat business, and lasting damage to the company's brand reputation.
- **Increased Operational Costs:** Delivery delays invariably increase costs. This includes the administrative overhead of the credit and sales teams' time spent on investigations and communication. It can also lead to direct financial penalties if service-level agreements (SLAs) with customers include clauses for delayed delivery. Furthermore, to salvage a customer relationship after a delay, companies often resort to costly expedited shipping to make up for lost time, further eroding the margin of the sale.
- **Delayed Revenue Recognition:** This is one of the most significant financial impacts. According to the Generally Accepted Accounting Principles (GAAP), revenue is typically recognized when control of goods is transferred to the customer, which often aligns with the point of shipping or delivery [9]. A sales order on credit block cannot be delivered. Therefore, the block directly halts the process that leads to revenue-recognition. An order that is blocked for several days at the end of a financial quarter can cause revenue to shift into the next quarter, impacting financial reporting, sales commissions, and cash flow forecasting [9].
- **Inconsistent Decisions:** Manual decision-making can be subjective and lead to inconsistencies in the application of credit policies. Different credit representatives may interpret the same information differently, resulting in different decisions for similar cases.
- **Lack of Visibility:** The manual process often lacks real-time visibility of the status of blocked orders. This can make it difficult to track the progress of orders and to identify bottlenecks in the process.
- **Process Fragility**: A released sales order is not permanently immune to future blocks. If a user makes even a minor change to the order—adjusting a quantity or changing a price—and saves it, the system will trigger the credit check again from the beginning. Because the system has no "memory" of the previous manual release, it may re-block the order for the same reason, forcing the entire time-consuming manual cycle to begin anew.

In summary, the manual credit release process in SAP ECC, although a long-standing practice, represents a significant source of operational friction. It delays fulfillment, dissatisfies customers, increases costs, and creates a strategic liability by consuming the valuable time of the credit team with low-value repetitive transaction tasks.

4. The Evolution to Intelligent Credit Management With SAP S/4HANA

A significant paradigm shift in credit management was marked by the transition from SAP ECC to SAP S/4HANA. The classic FI-AR-CR module was superseded by the more powerful and comprehensive SAP Credit Management (FIN-FSCM-CR), a core component of the Financial Supply Chain Management suite [10][11]. This was not an optional add-on but a new standard designed to provide a centralized, real-time, and strategically oriented platform for managing enterprise-wide credit risk [10].

4.1 Core Components and Innovations

Several architectural innovations were introduced by the S/4HANA solution, which fundamentally changed how credit was managed.

- **Centrality of the Business Partner (BP) Model:** In S/4HANA, the siloed customer master data model of ECC was replaced by the mandatory Business Partner (BP) model. All customers involved in credit processes were required to be maintained as BPs with the specific role of UKM000 (SAP Credit Management) assigned [12] [13]. This approach harmonizes master data, creating a single, unified source of truth for all credit-relevant information and providing a 360-degree view of the customer, which is essential for holistic risk assessment [10].
- **Granular Control with Credit Segments:** The monolithic Credit Control Area was replaced by a more flexible structure of Credit Segments. This allows a single business partner to have multiple distinct credit limits and credit policies applied [10] [11]. For example, one credit limit could be assigned to a customer for a domestic business unit and a different, more restrictive limit for an international export division, and so on. A main credit segment can be used to aggregate the total exposure across all sub-segments for an overall company-level view [10].
- **Credit Rules Engine:** This was arguably the most powerful innovation in S/4HANA Credit

Management. It is a sophisticated, configurable engine that allows a company to define its own business-driven rules to automatically calculate a customer's internal **score**, derive a corresponding risk class, and propose a specific credit limit [10], [12]. These rules were not limited to simple checks; a wide array of data points from the business partner master, internal payment behavior statistics, and even data imported from external credit agencies could be incorporated [10] [12].

- **Documented Credit Decisions (DCDs) and Embedded Workflows:** The manual, list-based process of releasing blocked documents was replaced by a formal, workflow-driven process centered on the Documented Credit Decision (DCD) [10] [12]. When a sales order was blocked, a DCD was automatically created by the system. The DCD was an auditable object that was routed via a predefined workflow to the appropriate credit analyst for review and approval (using Transaction UKM_CASE or UKM_MY_DCDS) [12] [13]. The entire decision-making process, including any notes, attachments, and final approval or rejection, was captured within the DCD, providing a complete and transparent audit trail for compliance purposes [12].

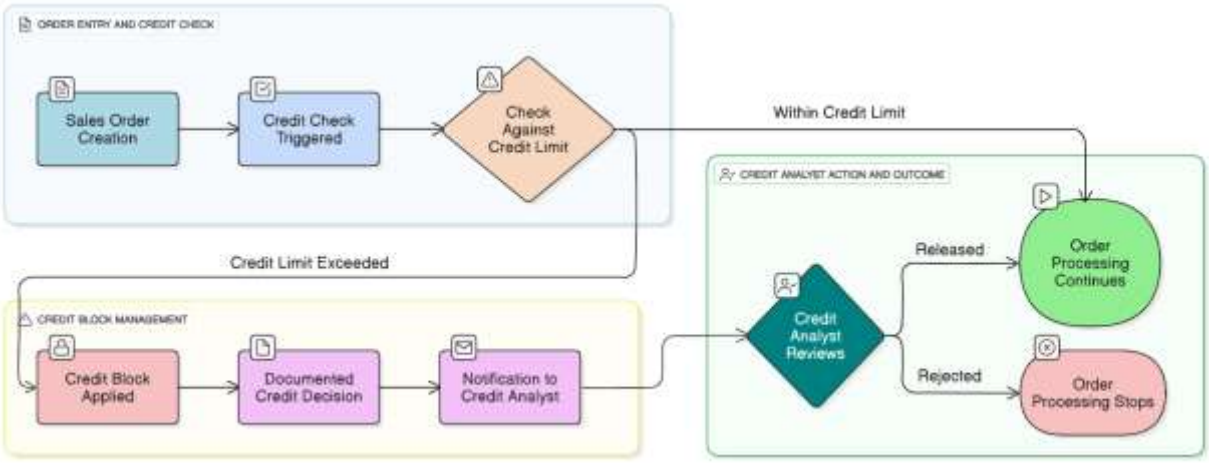

Figure 2. *Credit block release process in SAP S/4 HANA*

4.2 Advanced Capabilities and Strategic Advantages of S/4HANA Credit Management

The architecture of SAP S/4HANA introduced a host of advanced credit management capabilities, transforming the function from reactive, transaction-based control into proactive, strategic business processes. These enhancements provide tangible advantages in terms of efficiency, decision quality, and risk management.

- **Proactive Risk Management with Real-Time Data:** Leveraging the simplified data model of S/4HANA and the Universal Journal, all commitments that contribute to credit exposure are updated in real time. This eliminates the data latency of batch-oriented updates found in the ECC, ensuring that every credit check is performed against the most current data. This fundamental shift allows businesses to move from reactively blocking individual transactions to proactively managing a customer's entire credit profile through continuous monitoring and automated alerts [10] [13].
- **Automated and Data-Driven Decision-Making:** S/4HANA facilitates more accurate, objective, and consistent credit decisions by integrating rich internal and external data into sophisticated scoring models. A standardized XML-based interface simplifies integration with external credit agencies for the automated retrieval of credit ratings [10]. By automating the scoring, limit calculations, and exception handling, the need for manual intervention is significantly reduced. This frees credit analysts from repetitive tasks, allowing them to concentrate on higher-value activities, such as strategic portfolio analysis and complex risk assessment [10].
- **Advanced Analytics and Modern User Experience:** The platform offers a modern, role-based user experience through a suite of SAP Fiori applications. Apps such as "Analyze Credit Exposure" and "Credit Limit Utilization" provide credit managers with intuitive, real-time dashboards, Key Performance Indicators (KPIs), and drill-down capabilities. This transforms reporting from static lists into interactive analytical tools for better and faster insights [13] [14].
- **Enhanced Compliance and Auditability:** The Documented Credit Decision (DCD) functionality creates a complete, immutable audit

trail for every credit-related decision and exception. This systematic documentation is invaluable for satisfying internal control requirements and simplifying external audits [10] [12].

- **Licensing for Advanced Features:** SAP offers a "Basic Credit Management" version within the standard S/4HANA license for fundamental verification. However, the most powerful features, including the automatic calculation of internal creditworthiness via a rules engine, the creation of credit limit requests, and automated integration with external credit agencies, require an additional license for "Advanced Credit Management" [11] [12].

Collectively, these advancements elevate credit management from an operational control to a strategic, enterprise-wide capability. The focus has shifted from the narrow question of whether a single order exceeds a static limit to a more holistic and data-driven strategy for managing the complete, real-time credit profile of a business partner.

4.3 Considerations for Implementation and Migration

The migration from ECC Credit Management to the S/4HANA solution was a major undertaking that required significant planning and execution. It was not a simple "lift-and-shift" technical exercise. The project necessitated a detailed conceptual phase in which business processes were re-evaluated and redesigned to leverage the new capabilities [11]. Key activities included the technical migration of customer master data to the Business Partner model, strategic mapping of old CCAs to the new Credit Segment structure, and business-led definition of the new scoring and limit calculation rules for the Credit Rules Engine [12]. Given this complexity, organizations often treat the implementation of SAP Credit Management as a distinct pre-project ahead of the full S/4HANA migration to ensure that it receives the focused attention it requires [11].

5. Hyper-Automation with SAP BTP: The 'Manage Credit Block on Sales Order' Solution

While SAP S/4HANA provides a powerful real-time foundation for credit management, the next frontier of efficiency and intelligence lies in process automation. The SAP Business Technology Platform (BTP) offers tools to build sophisticated automated workflows that operate outside the core ECC system, enabling unparalleled flexibility and agility [15].

5.1 Introducing SAP BTP for Process Automation

SAP BTP is a Platform-as-a-Service (PaaS) that serves as a central hub for innovation and extension across the SAP ecosystem [15]. A core tenet of the S/4HANA and BTP strategy is maintaining a "clean core." This philosophy dictates that the core ECC system should be kept as standard as possible, with complex, company-specific processes and extensions built on the BTP [16]. This approach drastically simplifies future S/4HANA upgrades, reduces technical debt, and allows business processes to be modified with agile, low-code tools without affecting the stable core system [16].

The key BTP services for automating the credit block release process are as follows:

- **SAP Build Process Automation**: A unified offering that combines workflow management, Robotic Process Automation (RPA), and decision management in a low-code/no-code environment [16].
- **SAP Integration Suite**: A comprehensive Integration-Platform-as-a-Service (iPaaS) for connecting SAP and non-SAP systems [16].
- **SAP Event Mesh**: A fully managed cloud service that allows applications to communicate through asynchronous business events, enabling decoupled event-driven architectures [17] [18].

5.2 Deconstructing the 'Manage Credit Block on Sales Order' Content Package

To accelerate the adoption of this automation, SAP provides a prebuilt content package on the SAP Business Accelerator Hub. This package, titled Manage Credit Block on Sales Order, contains a collection of reusable artifacts that form a complete end-to-end solution [19]. It includes preconfigured process flows, business rules for decision-making, approval user interfaces, and a process visibility dashboard [19]. Adopting this package can significantly reduce implementation time and effort, with SAP reporting potential benefits such as a 30% reduction in the manual workload [4].

5.3 The End-to-End Automated Workflow

The BTP solution represents a shift from a manual, human-driven process to an automated exception-based process. This is a prime example of the "clean core" philosophy in practice [16]. In the past, this type of complex, multi-step approval logic was built using custom ABAP code directly within the ECC system, creating a rigid and hard-to-maintain solution. By externalizing this entire process to BTP, the S/4HANA core remains standard, whereas the business process on BTP becomes highly agile and adaptable [16]. The detailed workflow is as follows.

1. **Event Trigger in S/4HANA:** The process begins when a sales order is created or changed in S/4HANA and a credit check fails, resulting in a

credit block [17]. This action automatically publishes a business event (e.g., Sales Order Created/Changed) into the system's event infrastructure [17] [18].

2. **Event-Driven Architecture with SAP Event Mesh:** SAP Event Mesh, which acts as a central message broker, subscribes to specific sales order events from S/4HANA. Upon receiving an event, it reliably forwards the message to the designated BTP workflow [17][18]. This decouples the S/4HANA and BTP systems, ensuring that the temporary unavailability of one does not impact the other [17] [18].
3. **Process Orchestration in SAP Build Process Automation:** The event received from Event Mesh triggers the main 'Manage Credit Block on Sales Order' process on BTP [18]. This process acts as the central orchestrator for all subsequent steps, managing the flow of data and tasks [20].
4. **Data Enrichment via API Calls:** The initial event payload contains limited information. The BTP workflow immediately executes predefined "Actions," which are API calls to the S/4HANA system. Using standard OData APIs, such as API_SALES_ORDER_SRV and API_SLS_DOC_WITH_CREDIT_BLOCK, the workflow retrieves the complete context of the blocked order, including header details, item data, and pricing [21] [18].
5. **Intelligent Routing with Decision Logic:** With the full order context, the workflow executes a "Decision" artifact. This is a configurable business rule table in which the company's approval matrix is maintained [18]. The rules can analyze multiple data points from the order (e.g., total net amount, customer risk class, and sales organization) to determine the required course of action [18] [20]. For example, an order below a certain threshold might be auto-released, whereas a high-value order requires multi-level approval [17].
6. **Human-in-the-Loop for Approval Task:** If the decision logic determines that human approval is necessary, the workflow automatically generates a task in the designated approver's My Inbox Fiori app. Simultaneously, an email notification is sent [18] [20]. The approval task UI is pre-populated with all the enriched order and credit data, providing the approver with all the information needed to make an informed decision [18].
7. **Automated Execution of Decision:** Once final approver clicks "Approve" (or "Reject") in their inbox, the workflow receives the decision. It then executes a final "Action"—a secure API call (HTTP PATCH or POST) back to the S/4HANA system. This API call programmatically executes the release or rejection function, which updates the sales order in the core system, effectively removing the credit block and allowing the sales process to proceed automatically [18].

This automated workflow is more than a single solution; it serves as a powerful template for enterprise hyper-automation [16]. The pattern of using event-driven architecture, process orchestration, business rules, and API-based integration can be replicated for numerous other business processes [16].

Table 1. *SAP BTP Artifacts and their purposes.*

Artifact Type	**Example Artifact Name(s)**	**Purpose in the Workflow**
Event	Sales Order creation	A business event published by S/4HANA and consumed by SAP Event Mesh to initiate the BTP process when a sales order is created and blocked [18].
Process	Manage Sales Order Created, Approve Credit Check	The core orchestration flows in SAP Build Process Automation that manage the sequence of steps, from data retrieval to final execution [18].
Action	Get Blocked Sales Order Action, Release Credit Block	Pre-defined API calls that the BTP process uses to communicate with S/4HANA—reading data (GET) and executing changes (PATCH/POST) [18].
Decision	Determine Approver, Business Validation for Sales Order	Configurable business rule tables that apply company policy to the process, determining the approval path and validating the transaction [18].
Form	Approver Assignment, Update Credit Limit Details	The user interfaces presented to approvers or administrators within their My Inbox app to interact with the workflow task [18].
Data Type	Credit Blocked Sales Order, History Details	Structured data objects used within the BTP process to hold and pass information between different steps of the workflow [18].

6. Comparative Analysis of Credit Block Removal Processes in SAP ECC, SAP S/4HANA, and SAP BTP

The following section provides a comparative analysis of the credit block removal processes across three SAP platforms: SAP ERP (ECC), SAP S/4HANA, and SAP Business Technology Platform (BTP). The comparison is structured around key functional and technical aspects that influence the process efficiency, scalability, and compliance.

6.1. Process Trigger: Refers to how the credit block removal process is initiated in the system. Manual triggers require user action or scheduled jobs, whereas event-driven triggers respond automatically to system events, enhancing responsiveness.

6.2. Validation Logic: Describes the rules used to determine whether a sales order should be approved. Static logic is hardcoded, whereas dynamic logic allows business users to modify rules without technical intervention.

6.3. Approval Workflow: Represents the sequence of steps and approvals required to release a credit block. Visual workflows offer greater flexibility and transparency than traditional SAP business workflows.

6.4. Approver Assignment: Defines how the system determines the appropriate approver for a request. Dynamic, rule-based assignment ensures that the right stakeholders are notified based on contextual data.

6.5. Notification Mechanism: Covers how users are informed of pending tasks. Automated and customizable notifications improve communication and reduce the delays.

6.6. User Interface: The platform through which users interact with the process is described. Modern UIs, such as Fiori and SAPUI5, enhance usability and reduce training requirements.

6.7. Audit Trail: Tracks who performed what action and when. A robust audit trail is essential for ensuring compliance and accountability.

6.8. Monitoring and Visibility: Refers to the ability to track process status and performance. Real-time dashboards provide actionable insights and help identify bottlenecks in the process.

6.9. Scalability: Indicates the system's ability to handle increasing transaction volumes. Cloud-native solutions offer superior scalability.

6.10. Customization: This describes how easily the process can be adapted to specific business needs. Low-code/no-code platforms empower business users and reduce IT dependency.

6.11. Integration: The capability to connect with other systems. Broader integration support enables end-to-end automation across all platforms.

6.12. Compliance and Governance: Ensures adherence to internal policies and external regulations. Built-in controls and audit logs support the governance framework.

Table 2. *Comparison of Credit block removal process in SAP*

Aspect	**SAP ERP (ECC)**	**SAP S/4HANA**	**SAP BTP (Build Process Automation)**
Process Trigger	Manual or batch job	Event-based or manual	Event-driven (via Event Mesh or payload)
Validation Logic	ABAP-based, static	Enhanced logic via CDS views, BRF+	Dynamic decision tables (low-code/no-code)
Approval Workflow	SAP Business Workflow (complex setup)	Flexible with Fiori My Inbox	Visual workflow modeling with Build process Automation (BPA) Studio
Approver Assignment	Static roles or custom logic	Role-based with Fiori apps	Rule-based, dynamic (internal/external)
Notification Mechanism	Email or SAP Inbox	Fiori notifications	Automated emails with templates
User Interface	SAP GUI	Fiori Launchpad	Custom SAPUI5 Task UI
Audit Trail	Limited unless custom-built	Improved with workflow logs	Full traceability with process visibility
Monitoring & Visibility	Basic logs/reports	Fiori apps for tracking	Real-time dashboards and analytics
Scalability	Limited in high-volume	Better performance with HANA	Cloud-native, highly scalable
Customization	ABAP development required	BRF+, CDS, Fiori extensions	No-code/low-code customization
Integration	SAP only unless extended	Native integration with SAP Cloud	Integrates with SAP & non-SAP systems
Compliance & Governance	Manual tracking	Improved with workflow logs	Built-in audit logs and access control

7. Synthesis

The evolution of credit management from the manual, latent framework of SAP ECC to the hyperautomated capabilities enabled by SAP S/4HANA and the Business Technology Platform represents a critical technological and strategic progression. This journey transforms the credit function from a reactive, administrative bottleneck into a proactive, data-driven partner to achieve corporate growth objectives.

7.1. Recapping the Evolutionary Journey

The trajectory of credit management can be summarized in three distinct phases.

- **SAP ECC**: Characterized by manual release processes (VKM transactions), data latency due to static data updates, and fragmented transaction code-based user experiences [23] [24]. Although this framework is functional, it introduces operational inefficiencies and risks associated with decisions made using non-real-time data [23].
- **SAP S/4HANA**: A paradigm shift built on the real-time power of the HANA database [25]. It delivers a single source of truth through the Business Partner model, eliminates data latency via on-the-fly calculations, and introduces advanced capabilities such as Documented Credit Decisions and a modern Fiori user experience [23] [25]. This phase provides a foundation for accurate, reliable, and efficient credit management.
- **SAP S/4HANA with BTP Automation**: The pinnacle of modernization, where a "clean core" S/4HANA system is extended with intelligent workflows on the Business Technology Platform [16][22]. This phase leverages an event-driven architecture to fully automate the credit block release process, moving the credit team's focus from manual tasks to managing exceptions and strategic risk analysis [17][4].

7.2. The Business Case for Modernization

Technological advancements at each stage of this evolution translate directly into tangible business value.

- **Migrating to SAP S/4HANA** delivers a return on investment through the following:
- **Improved Risk Management:** Real-time data access eliminates the risk of making credit decisions based on stale information, and advanced analytics provide deeper insights into credit risks [23].
- **Enhanced Operational Efficiency:** Integrated processes within the FSCM framework and the intuitive Fiori interface reduce the time and effort required to manage credit master data and resolve blocked documents [23].
- **Better Strategic Decision-Making:** Analytical Fiori apps provide credit managers with real-time dashboards and KPIs, enabling proactive analysis and more informed strategic planning for customer credit policies [26].
- **Implementing BTP Automation** builds upon the S/4HANA foundation to deliver further value through:
- **Reduced Operational Costs:** Automating the high-volume, repetitive task of managing and releasing credit blocks significantly reduces the manual workload on the A/R and credit teams, with reported reductions of up to 30% [4].
- **Accelerated Order-to-Cash Cycle:** By drastically reducing the time a sales order spends in a credit-blocked state, the entire fulfillment process is accelerated, leading to faster invoicing and improved cash flow [4].
- **Improved Compliance and Auditability:** The automated workflow ensures that a standardized, policy-driven process is followed for every credit release. The system provides a complete and auditable trail of every event, decision, and approval [18].
- **Elevated Strategic Focus:** Freeing credit analysts from mundane transactional tasks allows them to focus on higher-value activities such as analyzing portfolio risk, engaging with high-risk customers, and refining credit strategies [4].

8. Strategic Recommendations

Based on this analysis, the following strategic path is recommended for organizations seeking to optimize their credit management functions:

- **For Organizations on SAP ECC:** The continued use of the classic FI-AR-CR credit management framework presents a growing operational risk and a competitive disadvantage. The primary strategic priority should be the planning and execution of migration to SAP S/4HANA. This move should not be viewed merely as a technical upgrade but as a foundational business transformation project aimed at modernizing the entire credit-to-cash process and establishing a platform for future innovation [24].
- **For Organizations on SAP S/4HANA:** The foundational step has been taken. The next strategic imperative is to fully embrace the "clean core" philosophy and leverage SAP BTP for

process automation and extension [16][22]. The Manage Credit Block on Sales Order content package provides a low-risk, high-impact starting point.[4] By implementing this pre-built solution, organizations can achieve a rapid return on investment and build the internal skills and architectural patterns necessary to apply hyperautomation to other business processes across the enterprise [16].

For All Organizations: Technology is only one part of the equation. A successful modernization initiative requires parallel investments in people and processes. The role of credit professionals must evolve from that of a transactional clerk to a strategic risk manager and automation expert. Organizations must invest in training and change management to equip their teams with the analytical and technical skills required to thrive in this new environment [24]. The ultimate goal is to create a resilient, agile, and intelligent credit management function that is not a barrier to sales but a strategic enabler of sustainable corporate growth.

Author Statements:

- **Ethical approval:** The conducted research is not related to either human or animal use.
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