



Cloud Workflow Automation: Technical Implementation and Industry Applications

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Abstract:

Cloud workflow automation is an innovative technological platform that will allow organizations to simplify the complex operational workflows in several corporate industries by smartly combining cloud computing, standardized APIs, and event-driven architecture patterns. The automation of transaction processing, clinical processes, inventory management, logistics and energy distribution systems have demonstrated to bring large changes in operational efficiency, regulatory compliance, and decision making quality within the organizations. The financial institutions use federated governance structures and machine learning algorithms to have uniform data governance across heterogeneous platforms without violating regulatory standards. Standardized clinical workflows are implemented by healthcare providers so that the care of the patient is automatically coordinated across departments and geographic locations, thereby decreasing delays and administrative load. Retail networks: event-based architecture allows synchronizing stock in real-time across the networks of different selling platforms, which subsequently improves the customer experience by providing the correct information about the product availability. The IoT enables the use of systems by logistics organizations that eliminate paper-based operations with real-time monitoring and automated exception management. The energy providers install modern distribution automation systems that allow self-healing and integration of renewable energy into the system by constant monitoring and intelligent control mechanisms. Cloud technologies in combination with artificial intelligence and real-time data processing can be converged to form whole ecosystems in which the practice of compliance, fraud detection, and data accuracy is performed automatically. The ability of workflow automation is strategically adopted by organizations to achieve sustainable competitive advantage by developing organizational resilience to market disruption through high quality service delivery, fast responsiveness to the market, and high-quality operational performance.

1. Introduction

Cloud workflow automation has become a key infrastructure technology that is transforming the operational paradigm in various industries of the globe. Companies all over the world are engaging in more and more complex transactions over distributed systems, which require sophisticated automation systems that cannot compromise speed, precision or regulatory compliance. Application Programming Interfaces combined with the cloud-based workflows allow the orchestration of various backend systems to achieve an uninterrupted flow of coordination without introducing a bottleneck of human intervention and minimizes the time lag of

decisions [1]. Financial institutions exist in multi-cloud environments where consistency in governing policies and structures should have to cut across heterogeneous platforms with governance frameworks like SOX, GDPR, and Basel III and need sophisticated federated architectures with orchestration, intelligence and enforcement layers [1]. In the same vein, in healthcare organizations the coordination of complex clinical processes in different departments and geographic locations is made where patient data is automatically invoked to standardized clinical processes, and manual routing is no longer necessary [3]. The event-driven architecture that provides real-time synchronization between physical outlets, online stores, and mobile

apps is used by retailers operating multi-channel inventories to manage the complexities of channel operations, and 73% of consumers shop using more than one channel through channel orchestration during a shopping experience [5]. The manufacturing and logistics industries have seen the growth of the IoT-based systems to enable the real-time provision of data instead of paper-based operations, with one of the largest automotive parts logistics firms having 18 nationally-based warehouses that need to operate collectively [7]. The smart grids energy providers process sensor real-time data obtained through monitoring networks to process anomalies automatically and initiate corrective measures to ensure grid stability of distributed infrastructure [9]. This is an expanded technical review of the application of cloud workflow automation in five key industries: banking and financial services, healthcare delivery systems, retail/inventory management, logistics/supply chain operations, and energy distribution networks. Every industry exhibits its own issues in which the workflow automatization brings in quantifiable business benefits in terms of compliance, operational effectiveness, cost savings, and increased decision making.

2. Banking – Transaction Automation and Compliance Governance

Billions of transactions are being done in the financial services sector on geographically dispersed networks and on different cloud platforms every day, calling on elaborate integration structures in which the lifecycle of a transaction automation can be done between its initial validation and settlement execution [1]. Cloud workflows provide end-to-end transaction processing in which validation, fraud detection, anti-money laundering regulations and settlement coordination are all run in parallel without human involvement to ensure that compliance enforcement is automatically enforced throughout transaction processing pipelines. The financial institutions in the multi-cloud set ups are confronted with unparalleled challenges in ensuring uniform data control over the heterogeneous platforms that are subjected to the intricate regulatory mandates. The study conducted by Paladugu on intelligent data governance shows that machine learning algorithms can automatically detect and categorize data assets in distributed ecosystems, and large language models could reach unbelievable levels of accuracy in understanding complex regulatory requirements and automatically produce governance policies that can adapt to changing regulatory conditions [1]. The technical architecture of the banking automation is

based on the federated governance structures with three underlining layers orchestrator layers to handle the complex inter-cloud communication protocols, policy synchronization workflows; intelligent data discovery layers to use AI-based classification methods based on transformer-based architectures; and automated compliance monitoring systems with intelligent rule engines to interpret regulatory instances to generate actionable policies [1]. These systems use advanced natural language processors to read complicated regulations and convert them automatically into enforceable governance policies with intelligent rule engines that can also process regulatory changes across multiple sources at the same time without losing sight of the overall developments to determine how the evolution of regulatory guidelines impacts on the existing governance structures [1].

Predictive risk assessment solutions provide sophisticated analytics based on machine learning algorithms, which process rich datasets that contain past compliance history, ongoing operations and possible regulatory trends to detect risks with large time benefits over more conventional reactive methods of compliance [1]. The studies related to the application of artificial intelligence technology to the financial risks management indicate that machine learning-based models enhance the predictive performance of the compliance violations and, at the same time, increase the efficiency of the regulatory compliance through the automation of both the risk detection and ranking of the risks. Such predictive mechanisms embrace the ensemble learning methods that integrate more than one algorithmic tool like the decision trees, neural networks and support vector machines to develop strong risk estimates [1].

The phased deployment plan carries out the intelligent governance solutions by the means of the progressive sequential implementations of addressing the multiple AI system deployment issues in the highly regulated financial services companies where business disruption creates significant regulation implications [1]. The analysis of implementation requirements indicates that organizations face tough challenges such as complicated technology, resistance to organizational change, limited resources, and presence of problems on application integration. The phased deployment model prevents barriers by building solutions in stages, which give organizations the time to build technical competency and change management capabilities needed at a slow pace. The first stage is only about data discovery and data cataloging operations with

the use of automation scanning techniques to determine the distributed data assets [1].

The organizations that employ intelligent governance models achieve incredible improvements in operational efficiency and compliance quality. Critical studies of AI transformation initiatives reveal that organizations implementing AI-enabled initiatives record significant performance changes with quantifiable benefits in operational efficiency, decision quality, and general competitiveness. The business value does not just limit itself to gains in its operation level but it also includes strategic value in terms of its ability to innovate and ability to respond more quickly to changing regulatory demands that describe financial services environments [1].

3. Healthcare – Clinical Workflow Automation and Care Coordination

The systems of healthcare provision demand exceptional coordination of numerous departments and special systems with high standards of patient privacy and clinical accuracy. The automation of clinical workflows is a solution to these challenges that consists of cloud-based workflows that integrate electronic health records, laboratory information systems, diagnostic imaging platforms, pharmacy systems, and care coordination tools wherein patient data automatically triggers the initiation of specific clinical workflows [3]. The openEHR Task Planning specification offers a powerful platform of creating clinical processes in terms of work plans that effectively outline detailed descriptions of tasks and their sequences and dependencies, which lead healthcare professionals through the complex clinical processes to ensure that every step is executed in the proper sequence within the required timeframes [3].

The medical imaging exam circuit automation openEHR Task Planning specifications were applied to a Portuguese hospital, and the analysis involved data of more than 6800 imaging exam requests and showed that health professionals were willing to use automated tools [3]. After implementation, waiting times to outsource management have reduced significantly, where the average number of waiting days in 2022 was lower than in 2019, and the difference between the pre-implementation and implementation periods was 30.857 waiting days on average with 95% confidence level [3]. The statistical test used independent samples t-test that showed statistically significant difference of p-value of less than 0.001 and thus ascertained that shorter waiting times are real improvement and not random variation [3]. The implementation of clinical workflow automation

was faced with several challenges in the development process. Medical workers did not have the experience of modeling when starting research, so there was a necessity to cooperate between teams familiar with openEHR standards and specialists in the field who guaranteed the presence of functional requirements [3]. The modeling stage involved such tools as draw.io with TP-VML libraries in particular and Archetype Designer that allowed the creation of archetypes and templates. The work plans were exported and translated into JavaScript Object Notation format and refined by adding unique identifiers that were used to ensure accurate tracking and referencing amongst system parts [3].

As it can be seen with the digital transformation of healthcare, administrative support processes have the strongest impact on Internet of Things and artificial intelligence, and the experts rank these technologies with the highest ratings in terms of transformative potential in the organizational work of hospitals [4]. The Delphi approach that investigated 6 groups of digital technologies based on expert consultation has reported that the IoT and AI and machine learning had the same maximum impact scores of 25 points among the reviewed technologies [4]. Companies that have adopted sophisticated digital technologies note significant benefits in automated data discovery features, which reduce the number of people performing their tasks and enhance compliance monitoring accuracy in comparison to processes that require a lot of human intervention [4].

Healthcare organizations can take advantage of cloud infrastructure affording distributed clinical workflows in which vital signs, test results, diagnostic results, or physician orders portally trigger workflows without manual routing or data re-entry [3]. Automation of workflow also means that diagnostic processes will always support evidence-based processes and inform the clinicians on potentially important discoveries, and healthcare organizations note that adverse events decreased significantly because of communication errors or slow responses [3]. The workflows of care coordination auto-manage the patient referral between departments and external providers, avoiding any delays in the administration process, and shortening the time on patient appointment booking due to the auto-coordination mechanisms [3].

4. Retail – Inventory Automation and Omnichannel Synchronization

In omnichannel marketplaces where customers desire shopping experiences in all pillars of the

retail sector; physical stores, online shopping systems, mobile apps and social media platforms, retail operations rely heavily on accurate inventory data across various sales channels, warehouse facilities and supplier networks [5]. A study that was conducted on 127 retailers globally discovered that 73% of consumers, when undertaking shopping trips, used more than one channel, 45% anticipated uniform information across the channels about inventory whereas 62% of online customers reported that they see inconsistent information about inventory as the major cause of cart abandonment [5]. The outdated plans of updating the inventory records after every 4-24 hours in the traditional method of batch processing are not keeping pace with the real-time demands, causing dissatisfaction in the customers and resulting in losses. The overall study of 42 retail supply chains conducted by Nilisetty shows that organizations that adopted event-driven systems lessened out-of-stock cases by 21-35% and also lowered the inventory carrying cost by 15-20% through the allocation of resources more efficiently [5].

The event-driven architecture allows real-time integration of data whereby inventory changes pass through systems, which activate the subsequent response to the channel in a manner of consistency and accuracy [5]. In their performance test, Cabane and Farias tested 14 real retail implementations that used event-driven systems that exhibited an increase of 67 times as well as lower latency by 43 times than their equivalent request-response architectures [5]. Their empirical investigation of three large European retailers found that EDA implementations ensured the same response time as the volumes of transactions rose by 800% in seasonal peaks, which is critical in the retail operations under highly variable demand patterns [5].

Event streaming systems are building blocks of event-driven retail systems, and in a detailed study of 38 retail applications, Adhwaru discovered that most successful event-driven data-processing environments were maintained at event processing efficiency ratio of above 98.7, or in other words, all events generated by the system were processed successfully without failure or serious delay [5]. The current Apache Kafka deployments in the retail sector continue to record message throughput rates of 50,000 and above messages per second with under 10 milliseconds latency and 99.9999% durability guarantees by using replication schemes [5]. The analysis conducted by Saksena showed that 73% of the retailers with successful real-time inventory synchronization used both event streaming platforms and microservices architecture, and their average reduction in channel-to-channel

inventory differences and order fulfillment accuracy increased by 76% and 62% respectively [5].

Machine learning algorithms can improve inventory management of retailers with the help of predictive analytics and demand forecasting. The study by Pasupuleti utilizing different algorithms of ML has attained 15% growth in the demand forecasting accuracy, 10% decrease in overstock and stockouts and 95% forecasting of order fulfillment schedules [6]. The mean absolute error of the gradient boosted trees is lowest at 1105 units average which was significantly low compared to linear regression models with average 1325 units with a statistically significant difference ($t(10,000) = 123.56$, $p < 0.001$) [6]. Optimization of reorder policy through machine learning resulted in a 5-10% reduction in inventory levels over fixed control policies and a 99% service level assessed with a massive simulation [6].

Hartanto et al. ran a comprehensive research of 342 organizations in Indonesia that retailers who applied event-based inventory systems reported average 287% ROI in 3 years with payback period averaging 9.7 months upon initial adoption [5]. Their longitudinal study showed customer satisfaction levels increased by 34% on average by adopting real time inventory systems which directly related to a higher purchase frequency and an average value in a transaction. Minimal research on transaction records in 78 million purchases made in 14 of the largest Indonesian retailers found that brands using EDA recorded 78.4% less cancellation because of stockouts after use [5].

5. Logistics – Real-Time Tracking and Exception Management

The logistics networks cut across geographical boundaries with many carriers, transshipment centers and delivery centers that develop a high level of complexity that needs visibility and assurance of on-time delivery. Cloud workflow automation revolutionizes logistics by providing end-to-end visibility of shipment status in real time through users of GPS tracking, carrier API and facility scanning systems, and automatically initiates workflows in case of exceptions or changes in status that will be communicated to the customer [8]. The supply chain management of a third party logistics company that has 18 warehouses in China with a total area of 490,000 meters and provides services to Dongfeng Nissan, GAC Toyota, and Nippon Express was equipped with the IoT-enabled cyber-physical system that facilitates the use of wearable devices and wireless communication technologies [7]. This implementation has achieved real-time synchronization of operations and

information sharing in the company, almost eliminating paper in operations, and has improved visibility and traceability across the whole process [7].

The IoT-based system comprises RFID, QR-code scanners, wireless connection, mobile and desktop platforms, and cloud computing and services with an attainment of big data management and real-time operations alignment [7]. This system uses RFID tags and homegrown Smart Pen as central instruments of data collection and transfer with an RFID tag having a unique identification number to convert physical objects into digital. Smart Pen with RFID reader, QR-code scanner, stylus components, and Bluetooth enables users to get information with the help of built-in readers [7]. This mechanism of connection allows recording and searching of all objects within the system where the data flows through the collection stage of using RFID tags and Smart Pen, interface stage in the development of desktop and mobile applications of the various executive levels, and storage stage where the cloud server is used as the data junction receiving and processing data [7].

AI has transformed the logistics sector with dynamic improvement of routes, wherein machine-learning methods utilize real-time information such as traffic and weather conditions and road blockages to continually optimize the routes [8]. UPS successfully introduced ORION (On-Road Integrated Optimization and Navigation), an AI-centered system that examined real-time information on over 55,000 drivers across the world and optimized the routes by forecasting the optimal routes and decreasing the delivery time, fuel consumption, and cost [8]. Since then UPS indicated savings of millions of dollars in fuel expenses and carbon emission. FedEx uses AI-driven system FedEx SameDay Bot based on machine learning algorithms that optimize the last-mile deliveries and includes the real-time data about traffic, weather, and package volume to create dynamically adjusted routes [8].

Self-driving vehicles and drones powered by AI allow the creation of autonomous systems of delivery that do not require any human intervention [8]. According to a study by Dong et al., autonomous delivery systems integrate the latest technology comprising robots, machine learning, and artificial intelligence to plan, optimize, and execute delivery services. The systems have the advantage of speed, where drones can deliver in minutes to the final customer, ensuring that people are less likely to wait longer to receive their products than they would have been otherwise under the old delivery services [8]. Autonomous systems enhance more delivery accuracy due to

accurate tracking of packages and delivery to the right place and minimize the possibility of human error caused by manual delivery [8].

The 3PL system that implemented the IoT produced paperless operations that cut the paper consumption that was estimated to save over 50,000 RMB per year [7]. Management efficiency was enhanced by the real time data synchronization that allowed management processes to be monitored and controlled better, the managers could access data in real time as opposed to the manual updates given by the workers. The system keeps the records of the operating information on the daily, monthly, and annual basis that help managers to track the workload situation and provide the adequate usage of the resources. Errors caused by the dependence on experience of workers were minimized dramatically due to automated decisions, made on the basis of the collected data and algorithms, and controllability of the procedures and reinforced by operational efficiency restricted the errors [7].

6. Energy – Grid Automation and Renewable Integration

Hundreds of thousands of miles of transmission and distribution infrastructure entails the continuous flow of energy through generation facilities to end consumers via transmission networks, which implies the need to have elaborate automation systems to measure grid conditions and automatically identify an aberration [9]. ADA is a critical component of the Smart Grid project that delivers effective communication networks that form the basis of automation systems [9]. The self-healing of smart distribution networks using Advanced Distribution Automation is one of the main core functions that allow more benefits with internal or external power system threats and enhance grid efficiency and effectiveness [9].

Supervisory Control and Data Acquisition systems are traditionally systems that are involved with monitoring and controlling substation relays, distribution switches, and other equipment within the entire electric distribution system to ensure voltages and currents are within acceptable limits of operational limits [9]. SCADA provides a platform containing the spread of distribution management functions when combined with other distribution automation systems. SCADA systems receive operational data at field and present status on control center operator display, and abnormal conditions on the control center display causes display alarms requiring the operator of the grid to take action or distribution management systems to dispatch automated SCADA commands [9]. The technology of smart grids modifies the traditional

energy networks that enhance performance and reliability and offers an enhanced management, control, and communication potential [10]. Next-generation conventional grids Smart grids have the capacity of information flow and a two-way power supply integrating the activity of all users and allowing bidirectional functioning of distribution systems to fulfill providing sustainable electricity. Traditional electrical grid embodies unidirectional in which a third of fuel energy is converted to electricity and then there is no recovery of the waste heat, where only a small fraction of approximately 8% of the output is lost to transmission lines and 20% of capacity is only available to meet peak demand [10].

Advanced Distribution Automation applications would offer automated capability of operators to detect, locate and clear faults in real time using relay switches, remotely located fault indicators, and reclosers that give access to real time data on the feeder [9]. This data when fed to the functional Distribution Management System allows one to determine the root cause and location of faults and the level of faults that occur accurately. Fault Location, Isolation and Service Restoration systems which involve automated feeder switches and reclosers with communication networks and grid analytics manage the power restoration operation of faults by automatically isolating the fault and restoring service by moving customers to near sub-station feeders [9]. The automated actions are faster than the manual stages of FLISR actions that were traditionally manually validated and it took five minutes or more in this context [9].

The integration of renewable energy with smart grids needs the state of the art equipment to monitor and harness the distributed energy resource to mitigate control challenges and the overall power flow that covers the low voltage demands, variations in voltages, harmonic injection, and effective operation of reactive power [10]. Smart grid utilities have implemented Distributed Energy Resource Management Systems and Integrated Automated Dispatch Systems on a small scale. There are significant challenges associated with integrating renewable energy sources into existing grids such as interruptions, voltage variations and power losses that need smart grid solutions [10]. The Smart grid technology has a solution to enhance the production of electric energy and efficient transmission and distribution of electricity and is easier to set up as it has less space compared to the traditional grids thanks to its versatility [10]. Equipment health monitoring through sensors on important electrical equipment and infrastructure monitors equipment health as well as giving near real-time warnings of abnormal conditions and

analytics that assist in maintenance planning [9]. The monitoring systems are automated by several utilities to minimize human involvement in the process of inspections, facilitate active maintenance, and enhance diagnosis of equipment errors. IVC Systems offer automatic control of both voltage and power factor correction to allow utilities to cut their peak demands, use the current assets more efficiently and effectively and to make the power quality better [9].

7. Implementation Challenges, Risks, and Limitations

Despite the significant advantages offered by cloud workflow automation, its implementation across enterprise environments presents several challenges and limitations that must be carefully addressed. These issues span technical, organizational, security, and operational dimensions, influencing the overall effectiveness and sustainability of automated systems[12].

A primary technical challenge is the integration of legacy systems with modern cloud-based architectures. Many organizations continue to rely on outdated infrastructure that does not easily support API-driven or event-based communication models. This lack of interoperability complicates workflow orchestration and often requires additional middleware, increasing system complexity and maintenance overhead. Furthermore, managing workflows across multi-cloud or hybrid environments introduces additional challenges related to standardization and system compatibility [11].

Data security and privacy risks also represent a critical concern in cloud workflow automation. As workflows involve continuous data exchange across distributed systems, the risk of unauthorized access, data leakage, or cyberattacks increases. This is particularly significant in sectors such as healthcare and finance, where sensitive data must comply with strict regulatory frameworks. Any misconfiguration in automated workflows or cloud environments can expose vulnerabilities, emphasizing the need for robust security mechanisms and continuous monitoring[13].

From an organizational perspective, resistance to technological change and lack of skilled expertise can hinder successful adoption. Employees may be reluctant to transition from traditional processes to automated systems due to uncertainty or insufficient training. Additionally, implementing intelligent automation requires expertise in cloud computing, data engineering, and artificial intelligence, which may not be readily available in all organizations[14]. Operationally, there is a risk

of over-reliance on automation, which can reduce human oversight in critical processes. Automated systems operate based on predefined rules or trained models, and any inaccuracies in data inputs or algorithmic decisions can propagate errors across interconnected workflows. In high-stakes environments such as healthcare delivery or energy distribution, such errors may lead to significant consequences. Therefore, incorporating validation mechanisms and human-in-the-loop approaches remains essential[15]. Financial and strategic limitations also affect adoption. The initial investment required for implementing cloud workflow automation, including infrastructure setup, integration, and workforce training, can be substantial. Moreover, organizations may face vendor lock-in, where dependence on specific cloud providers limits flexibility and increases long-term costs due to proprietary technologies and service

dependencies[16]. In addition, ensuring the scalability and reliability of automated workflows is a continuous challenge. Event-driven architectures, while enabling real-time responsiveness, require robust fault-tolerance and monitoring systems to handle high volumes of events. Any failure in a single component can disrupt the entire workflow, highlighting the importance of resilient system design and redundancy strategies[17].

In conclusion, while cloud workflow automation delivers considerable improvements in efficiency and decision-making, its successful implementation depends on effectively addressing these challenges. Organizations must adopt a balanced approach that combines technological innovation with strong governance, security practices, and human oversight to fully realize the benefits of automation[18].

Table 1: AI-Driven Compliance and Risk Management Capabilities [1]

| Capability | Description | AI Techniques Applied |
|-------------------------------|--|---|
| Automated Data Classification | Detection and categorization of data assets across cloud environments | Machine Learning, Transformer architectures |
| Regulatory Interpretation | Automatic understanding and translation of complex regulations into policies | Natural Language Processing, LLMs |
| Predictive Risk Assessment | Early identification of compliance violations and regulatory risks | Ensemble learning, ML analytics |
| Risk Ranking | Prioritization of compliance risks for proactive mitigation | Decision Trees, Neural Networks, SVMs |
| Compliance Efficiency | Improved accuracy and speed compared to reactive compliance models | AI-driven automation |

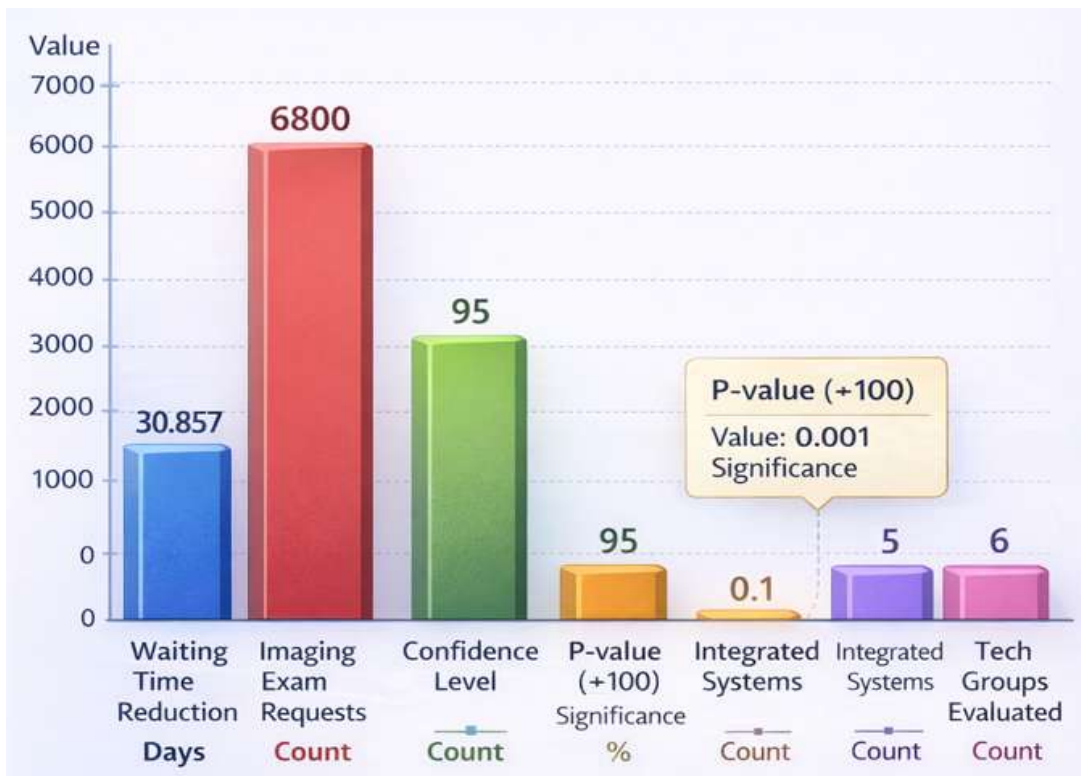


Figure 1: Portuguese Hospital Implementation Study (openEHR Task Planning) [3, 4]

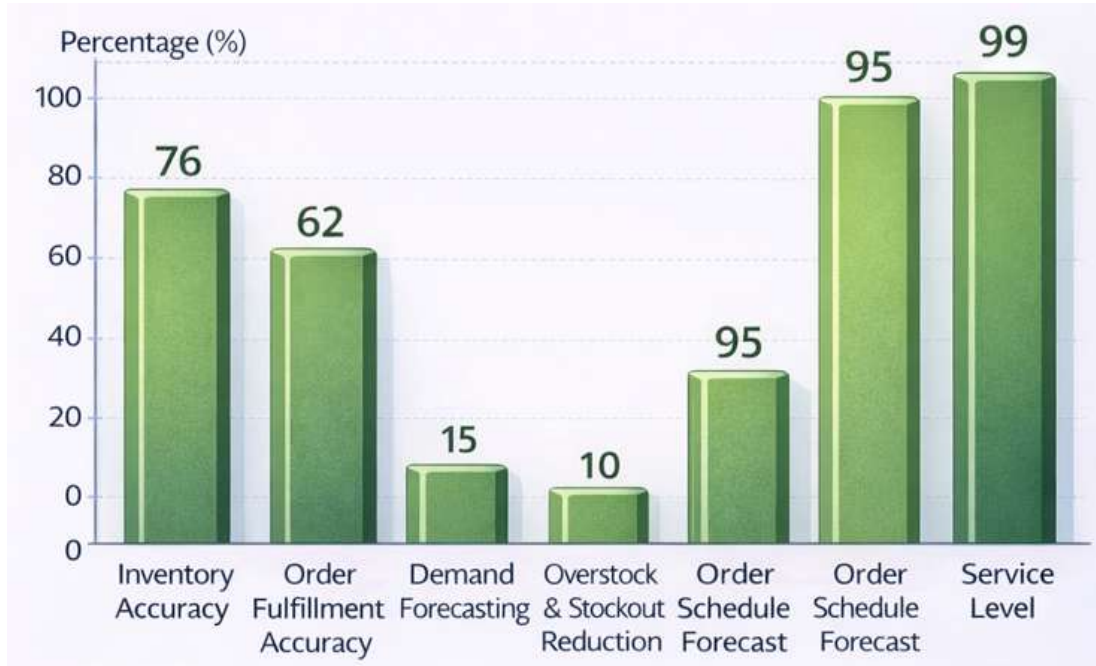


Figure 2: Accuracy Improvements (%): Retail Automation Implementation Results [5, 6]

Table 2: Technologies and Functions Supporting Smart Grid Operations [9, 10]

| Area | Core Technologies | Key Functions | Outcomes |
|-----------------------|---|---|---|
| Grid Automation | Advanced Distribution Automation, SCADA | Grid monitoring, fault detection, automated control | Improved reliability and operational efficiency |
| Smart Grid Systems | Communication networks, Distribution Management Systems | Two-way power and data flow, real-time decision support | Enhanced grid resilience and flexibility |
| Fault Management | FLISR, sensors, reclosers | Fault location, isolation, service restoration | Faster outage recovery and reduced downtime |
| Renewable Integration | DERMS, automated dispatch, grid analytics | Renewable monitoring, voltage and power flow management | Sustainable energy integration and grid stability |

8. Conclusions

The concept of cloud workflow automation has radically transformed the nature of operation in organizations as it facilitates a smooth flow of associated processes within the distributed systems and various industries. The combination of machine learning technology, natural language processing technology and real time event processing technology forms intelligent systems that can automate decision making processes that previously involved the human element and judgment. By enhancing their compliance posture, financial services organizations build resilience to compliance rules and policies by maintaining their automated governance systems that continuously scan and modify the regulations. The systems of healthcare delivery enhance patient outcomes by automating patient clinical processes to assume the same evidence-based protocols and remove administrative delays in care coordination. The

real-time synchronization mechanisms making retail operations obtain unprecedented accuracy of inventory and customer satisfaction eradicate the data inconsistency across the sales channels. Logistics networks contribute to greater visibility and responsiveness by use of automated tracking and smart route optimization that is driven by machine learning algorithms. With high levels of automation, energy distribution systems become resilient and efficient by identifying anomalies and automating corrective measures without a human operator being involved. Cloud workflow automation is not only strategically vital because of the short-term impacts on operations but also long-term competitive stance and organizational flexibility. In the future, it will be developed with the focus to have more integration with the new technologies such as development of artificial intelligence, greater interoperability beyond industry lines, and increased security protocols to safeguard important company information.

Organizations that still invest in workflow automation capabilities place themselves in a position to take advantage of technological advancement as they develop operational flexibility that can make them successful in the ever more sophisticated and fast changing business environments.

Author Statements:

- **Ethical approval:** The conducted research is not related to either human or animal use.
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- **Use of AI Tools:** The author(s) declare that no generative AI or AI-assisted technologies were used in the writing process of this manuscript.

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