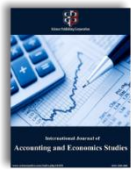
International Journal of Accounting and Economics Studies, 12 (2) (2025) 43-46

International Journal of Accounting and Economics Studies

Website: www.sciencepubco.com/index.php/IJAES
https://doi.org/10.14419/w04bmy85
Research paper



Analysis of disruptive business models: leveraging AI to transform accounting services

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Received: May 1, 2025, Accepted: June 2, 2025, Published: June 5, 2025

Abstract

This paper explores the transformative potential of leveraging artificial intelligence (AI) to disrupt and revolutionize accounting services. Acknowledging the limitations of traditional accounting practices, the paper delves into the current landscape of the industry and identifies emerging technologies. It provides an in-depth understanding of AI applications in accounting, emphasizing the benefits of integration. The core of the paper outlines a comprehensive disruptive business model, comprising automated data entry, predictive analytics, fraud detection, client interaction, and customized financial reporting. Each component is discussed in detail, highlighting the role of AI in reshaping conventional processes. Implementation strategies, including phased integration and staff upskilling, are presented to guide businesses through the transition. To illustrate practical applications, the paper includes case studies of successful AI-driven disruptions in accounting services, offering valuable insights and lessons learned. The challenges and risks associated with AI implementation are also addressed, emphasizing the importance of ethical considerations and regulatory compliance. Looking ahead, the paper outlines future trends in AI for accounting services, providing a glimpse into the evolving landscape. It concludes with a compelling call to action for businesses to embrace these disruptive models, recognizing the potential for enhanced efficiency, accuracy, and client satisfaction in the rapidly evolving accounting industry.

Keywords: *Accounting; Business; Disruptive; Services; Transform.*

1. Introduction

The accounting services industry plays a pivotal role in the global business landscape, providing essential financial management, reporting, and advisory services to organizations of all sizes (Saeidi & Prasad, 2019). Traditionally, this sector has relied on manual and labor-intensive processes, characterized by time-consuming data entry, complex financial analysis, and a considerable margin for human error. The traditional accounting model typically involves continuous efforts such as data reconciliation, ledger maintenance, and financial reporting. However, these processes are resource-intensive and susceptible to delays, potentially hindering decision-making and responsiveness to dynamic market conditions (Singh et al., 2016). As industries continue to digitize and data volumes soar, there is a growing need for advanced results that can streamline these processes, enhance accuracy, and provide valuable insights to stakeholders. In light of the challenges faced by the traditional accounting services industry, the integration of artificial intelligence (AI) emerges as a transformative solution (Dwivedi et al., 2019).

The purpose of introducing a disruptive business model in the realm of accounting services is to capitalize on the transformative potential of AI (Agyei-Boapeah et al., 2022). This model seeks to redefine traditional practices by incorporating cutting-edge technologies that drive efficiency, accuracy, and innovation. By adopting a disruptive business model, accounting firms want to break with outdated methodologies, adopting online compliance automation-driven solutions, to generate a competitive advantage in the market. The disruptive business model described in this paper encompasses a holistic view that encompasses different aspects of accounting services (Kapoor et al., 2021). Also automating regular tasks, it also aims to improve the overall quality of financial reporting, analytics, and customer interactions. Through the integration of AI, the disruptive model aspires to usher in a new era of accounting services, where professionals are empowered to provide strategic insights, navigate complex regulatory landscapes, and deliver unparalleled value to their clients (Leitner & Stiefmueller, 2019).

1.1. Current landscape of accounting services

The foundations of the accounting services industry have long been built on standard practices, including manually using financial data, maintaining the main ledger, and creating periodic reports (Dai and Vasarhelyi, 2017). Reliance on spreadsheets, physical documents, and legacy systems has been the hallmark of these traditional practices. The essential components of ordinary accounting practices are

accounting, preparation of financial statements, tax compliance, and auditing processes (Ladda, 2014). These practices have given a structured framework for financial reporting, but they are often labor-intensive, time-consuming, and prone to human error. Also, the retrospective nature of these practices limits the capacity for real-time information, making it difficult to make decisions in an age when adequate information is critical. Traditional accounting practices have been the backbone of financial management for decades, facing several limitations and challenges that defecate effectiveness in the contemporary business landscape, among others; Manual entry processes of burnable data and a tendency to errors (Alao et al., 2024). Inefficiency in the convergence of large volumes of financial transactions. Inability to provide real-time financial information. Delays in reporting and analysis in periodic accounting cycles. Difficulty in scaling data volume utilization operations more and more. Processes that consume a lot of resources and limit scalability. Human errors in data entry and calculation challenges of adequate detection of fraud and irregularities. Traditional models focus more on historical data than predictive analytics. To address the limits of traditional accounting practices, the industry is witnessing a paradigm shift driven by the adoption of emerging technologies (Manfren et al., 2010). Several innovative solutions are reshaping the accounting landscape. among other things, Cloud Computing allows you to cooperate in real time and access financial data from anywhere. Improves scalability and reduces the need for on-premises infrastructure. It enables predictive analytics for more detailed financial forecasting. Blockchain technology improves the security and transparency of financial transactions. It speeds up audit processes, by giving a more immutable book. Data analytics and business intelligence allow for comprehensive analysis of large data sets to gain actionable insights (Phillips-Wren et al., 2021). It supports strategic decision-making through data-driven approaches. Robotic Process Automation (RPA) automates repetitive jobs, reducing the risk of failures. Improve your efficiency through rules-based processes. Advanced Reporting Tools introduces interactive and customizable reporting features. Provide stakeholders with more intuitive and accessible (McKay, 2013).

1.2. Understanding AI in accounting

Artificial Intelligence (AI) is a transformative technological paradigm that requires the creation of systems capable of performing tasks that require human intelligence (Wamba-Taguimdje et al., 2020). In the accounting context, AIS applications encompass a wide range of functionalities designed to automate, improve, and reverse traditional processes. These applications leverage machine learning, natural language processing, and advanced algorithms to analyze, prevent, and make better decisions. In machine learning (ML) accounting, FRM algorithms make it possible to learn from data models and improve the performance of systems over time (Nielsen, 2022). Modeling, classifying, and detecting anomalies are common accounting applications. Natural language processing (NLP) allows systems to understand and interpret human language, making it easier to interact with financial documents, reports, and financial data (Bahja, 2020). AI-powered predictive analytics use historical data to predict future trends and outcomes. Accounting can include the announcement of cash flows, budget modifications, and potential financial risks (Jain and Kulkarni, 2023). Online compliance automation enables automation of data extraction from various sources, reducing efforts for manual data entry. The OSA's algorithms analyze patterns and anomalies to detect fraud in financial transactions. Risk management benefits from preemptive modeling and identifies and mitigates risks in real-time. Cognitive automation involves AI systems that simulate human intelligence to perform complex jobs. This can include automating decision-making processes in accounting and complex financial analyses (Agrawal et al., 2018).

The integration of AI into accounting services yields a multitude of benefits, transforming the industry and providing a competitive edge to businesses. Automation of routine tasks such as data entry and reconciliation reduces manual efforts (Al, 2021). Faster processing times enable quicker generation of financial reports. AI systems minimize the risk of human error associated with manual data handling. Improved accuracy in financial reporting and compliance. AI facilitates the analysis of large datasets in real-time, providing up-to-the-minute financial insights. Enables agile decision-making based on the latest information. Automation of repetitive tasks and streamlined processes lead to reduced operational costs (Khatib et al., 2023). AI-driven solutions offer a cost-effective alternative to traditional models. AI systems can assist in ensuring compliance with evolving accounting standards and regulations. Automated monitoring helps identify and address compliance issues promptly. Predictive analytics and data-driven insights empower financial professionals to make informed strategic decisions (Kehinde, 2025). AI enhances the role of accountants as strategic advisors rather than just data processors.

Several key AI technologies are at the forefront of shaping the future of accounting services, providing innovative solutions to longstanding challenges. Robotic Process Automation (RPA) automates rule-based tasks, reducing manual intervention in repetitive processes (Thota et al., 2022).

1.3. Disruptive business model components

Regular accounting practices have long been done by entering financial data manually, using a slow and error-prone process. The disruptive business model is committed to manual data entry, integrating state-of-the-art technologies (Lytvyn, 2024). Optical character recognition (OCR) technology, for example, automates the extraction of information from facts, receipts, and other documents, reducing reliance on human intervention. By eliminating manual data entry, this component improves accuracy, reduces processing times, and allows accounting professionals to focus on higher-value tasks. By converting printed or handwritten text into machine-readable data, OCR technology speeds up data entry processes and minimizes the risk of transcription failures. This, also saving time, ensures the integrity of financial information. This component not only speeds up the data entry process, but also reduces the errors associated with manual entry. The disruptive business model goes beyond eliminating manual data entry, leveraging SIA algorithms to speed up data processing. Traditional methods often struggle to effectively utilize large volumes of financial transactions. The predictive capability improves the speed and accuracy of data processing. Online compliance automation, powered by data analysis tools, analyzes complex financial datasets by identifying trends, anomalies, and correlations. This also streamlines information, provides valuable information for decision-making. From the point of view of retroactive proactive change, institutions allow them to make informed decisions immediately, adapting to the dynamic nature of the modern business landscape (Ahmed et al., 2022).

Traditional financial forecasting relies on historical data and manual analysis, limiting accuracy and responsiveness. The disruptive business model includes a predictive study powered by the to reverse financial predictions. Machine learning algorithms analyze historical data, market trends, and external factors to create concrete forecasts (Chatzis et al., 2018). This proactive approach will allow banks to anticipate future financial stresses, identify potential risks and make strategic decisions with a higher level of confidence. AI-powered machine learning models constantly learn and adapt to changing patterns, improving the accuracy of financial predictions over time. This adaptation is decisive in the ever-evolving business landscape. AI facilitates the analysis of scenarios considering various factors and results. This will allow banks to assess their impact on financial activity in different situations, contributing to risk mitigation and strategic planning. Beyond concrete financial predictions, integrating predictive analytics into the disruptive business model improves overall decision-making processes. By reporting on future developments and potential outcomes, banks will be able to make data-driven decisions, in line with strategic

objectives. This component not only reduces uncertainty, but also provides proactive responses to market changes and the possibilities that are occurring. AI-powered predictive research supports strategic planning by identifying growth areas, potential challenges, and market opportunities (Bharadiya, 2023). This informs decision-makers and helps them allocate resources effectively. Forecast analysis helps optimize resource allocation through demand forecasting, inventory level management, and cash flows. This offers more efficient and cost-effective operations. The incorporation of predictive analytics and financial forecasting into the disruptive business model represents a substantial change in reactive decision-making from a proactive and strategic perspective. This component will allow institutions to avoid uncertainties, capitalize on emerging opportunities, and keep them ahead of the curve in a rapidly changing business environment (Montes et al., 2024). Traditional fraud detection methods often rely on backward analysis and predetermined rules, making it difficult to identify and identify sophisticated fraudulent activity. The disruptive business model embraces OA-powered tools that leverage advanced algorithms to detect fraud in real-time. Machine learning models analyze patterns, anomalies, and deviations from common behavior, allowing entities to quickly identify fraudulent transactions. This proactive approach improves the ability to prevent fraud before causing significant financial damage.

1.4. Implementation strategies

Implementing a disruptive business model that leverages open access technologies in accounting services requires responsible planning, strategic decisions, and commitment to organizational change. Integration of DIA technologies in phases, conducting a thorough analysis of existing processes and identifying areas that can have the most significant impact of online compliance automation. Prioritize repetitive, slow, and error-prone jobs, which are prime candidates for automation. Alignment of the AI Technological Integration with the general strategic objectives of the organization. Consider areas that directly contribute to business goals, such as improving efficiency, improving customer satisfaction, or increasing forecasting capabilities. Stakeholders, including accounting professionals, including IT teams and decision-makers, are involved in the process of prioritizing areas of disruption. Cooperative decision-making ensures that the selected areas correspond to operational and strategic needs. Initiation of pilot programs in selected sections or business units to demonstrate the effectiveness of AI technologies in real-world scenarios. This phased view will allow adjustments to be made before the deployment opens, based on the return. OAS-driven components go unnoticed in existing workflows, rather than making simultaneous changes across the organization. This great focus minimizes disruptions, allows for more agile adaptation, and offers possibilities to meet challenges as they arise. Training and support of staff in the implementation phase to ensure a smooth transition. Support for resources, tutorial, and guidance to get used to new tools and processes.

1.5. Challenges and risks

Workers and stakeholders may forgo adopting disruptive AI models due to job relocation, unfamiliarity with new technologies, or prioritization in favor of traditional methods (William & Eric, 2023). It establishes sound change management strategies, highlighting communication plans, training programs, and online compliance automation benefits to combat resistance and foster a culture of innovation. Integrating AI into systems and workflows can be complex and requires technical expertise and the potential for disruptions to day-to-day operations. It is introduced in the planning phases, carrying out specific evaluations of existing systems and investing in robust technical support. Collaboration between IT groups and end users is imperative for an agile integration process. AI models rely heavily on high-quality data. Indeterminate or incomplete data can produce faulty results, and accessibility issues can arise if the data is siloed or used indefinitely. Prioritize data quality and establish data governance practices. Carry out periodic audits, establish data cleansing processes, and obtain data throughout the entity, in the II. Implementing TIA technologies can have significant upfront costs, such as investment in technology, staff training, and ongoing maintenance. Develop a comprehensive cost-benefit analysis that justifies the investment made in the second century. Keep in mind that long-term gains are more efficient and are a competitive advantage. Prioritize critical aspects of the warehouse to optimize resource allocation. Not having qualified professionals with expertise in AI, including data scientists, machine learning engineers, and AI specialists. Invest in training programs to upskill existing staff. It establishes alliances with educational institutions, collaborates with external experts, and the OAS will carry out various works to combat the shortage of talent (Osman & Anouze, 2015).

IS algorithms can dry up outdated historical data, which can lead to discriminatory results. Conducting regular bias audits on open access models, diversifying training data, and establishing equity-aware algorithms. Introduction of ethical considerations into the design and development process to minimize bias. Online compliance automation models often act as "black boxes," making it difficult to understand how they arrive at concrete decisions. A lack of transparency can cast ethical problems. Prioritizing the development of WRF explanatory models (Odonkor et al., 2024).

2. Conclusion

The potential of artificial intelligence (AI) to transform accounting services is enormous and offers a paradigm shift in the management, analysis and optimization of financial processes. In accounting services driven by AI technologies, the path to disruptive business models includes numerous advancements and innovations. Online compliance automation can automate time-consuming jobs globally, greatly reducing the tasks involved in data entry, processing, and reconciliation. This automation not only improves their efficiency but also allows accounting professionals to gain a view of strategic and high-value activities. Online compliance automation integration enables preemptive analysis that allows entities to make informed decisions based on specific forecasts and insights derived from large data sets. The decision support systems promoted by the online compliance automation contribute to a more agile and proactive financial management. Online compliance automation powered tools such as chatbots and virtual collaborators revolutionize customer interactions, providing real-time responses and personalized, accessible communication. This fosters stronger customer relationships and increases the overall experience of accounting services, The UMA offers sophisticated tools to detect fraud in real-time and manage risks, allowing entities to identify anomalies and quickly address threats. This proactive approach improves the security and integrity of financial processes. The transfer to the personalised financial reports issued by the CAJA adapts the reports to the needs of the client and to the particularities of the sector. Interactive reports empower customers with actionable insights in real-time, fostering a deeper understanding of the financial situation.

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