How Does AI Influence the Acceptance of Business Intelligence Solutions in Switzerland?

A Case Study of Swiss BI Software Company

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Abstract— **This study explores how Artificial Intelligence (AI) influences the acceptance and adoption of Business Intelligence (BI) solutions in Swiss companies. With AI rapidly reshaping industries and boosting productivity, the research investigates how AI enhances BI systems in decision-making, operational efficiency, and data-driven strategies. A qualitative case study was conducted through an anonymized interview with the director of a Swiss software company specializing in BI solutions. The research identifies key challenges in BI adoption, such as data integration, financial constraints, and the need for internal expertise, while examining how AI addresses these barriers. It also explores whether AI complements or competes with traditional BI tools, revealing that AI enhances BI by automating tasks, improving data accessibility, and enabling real-time insights. The findings contribute to theoretical frameworks like the technological, organizational, and environmental (TOE) framework, dynamic capabilities theory, and the resource-based view (RBV), highlighting AI's role in advancing BI systems and organizational agility.**

Keywords—Artificial Intelligence; Business Intelligence; Switzerland; BI Adoption.

I. INTRODUCTION

Artificial Intelligence (AI) is rapidly transforming industries worldwide, driving significant economic growth and reshaping business operations. Projections indicate that AI could contribute up to $15.7 trillion to the global economy by 2030 [23]. This underscores AI's pivotal role in enhancing productivity, especially through integration into workflows, which improves efficiency among younger employees [18].

Simultaneously, the global Business Intelligence (BI) software market is projected to reach USD 151.26 billion by 2034, with a compound annual growth rate (CAGR) of 13.74% [22]. BI solutions have become essential tools for data-driven decision-making, operational efficiency, and strategic planning [1]. The core principles of BI revolve around collecting, integrating, analyzing, and presenting business data in ways that support informed managerial decision-making. As AI technologies advance, their integration into BI systems is reshaping the BI landscape by enabling automation, predictive insights, and real-time data accessibility. This technological convergence is likely to accelerate BI adoption across industries.

In Switzerland, AI adoption is progressing steadily. A 2023 survey reports that 62% of professionals have implemented AI, with 30.6% using it across five or more business functions [27]. This reflects Swiss companies' increasing reliance on AI to drive innovation and maintain competitiveness.

Despite growing implementation, the actual impact of AI on productivity remains ambiguous, echoing the historical "Solow paradox" observed with earlier technologies [12], [26]. As a result, a deeper understanding is needed of how AI transforms business processes, particularly in combination with BI tools.

This study aims to examine how AI influences the acceptance and adoption of BI solutions among Swiss companies. Specifically, the purpose of this article is to explore whether AI acts as a complementary technology or a potential competitor to traditional BI systems, and how it transforms decision-making, operational efficiency, and data strategies.

Based on these goals, the study investigates the challenges of BI adoption in Switzerland, the role of BI in enhancing organizational efficiency, and how AI affects BI system capabilities. The specific research questions guiding this study are detailed in Section III.

The remainder of the article is structured as follows: Section II reviews relevant literature and theoretical frameworks on BI and AI adoption. Section III formulates the research questions. Section IV outlines the research methodology and case study design. Section V presents and analyzes the empirical findings. Finally, Section VI discusses the conclusions, theoretical contributions, limitations, and recommendations for future research.

II. RELATED LITERATURE

A. Theoretical framework for adoption of BI solutions

A wide range of theoretical frameworks have been used to understand the adoption and use of Business Intelligence (BI) solutions in organizations. These include socio-technical systems theory (STS), diffusion of innovation (DOI),

institutional theory (IT), unified theory of acceptance and use of technology (UTAUT), business intelligence maturity models (BIMM), and business value of BI (BVBI). While these models offer valuable conceptual insights and have been successfully applied in various technology adoption studies, they are often more general or focus on user acceptance, institutional influence, or long-term maturity progression.

For the purpose of this study, which aims to understand how Swiss companies adopt BI tools and integrate AI into these systems, we focus on three frameworks that are most relevant and directly applicable to the empirical setting: the Technological-Organizational-Environmental (TOE) framework, the Resource-Based View (RBV), and Dynamic Capabilities Theory (DCT) (Table 1).

TABLE I. RESEARCH METHOD FRAMEWORK

Theoretical Framework	Common Focus	Specific Contribution to BI Adoption in Switzerland
TOE	Technology, organization, environment	Captures external pressures and internal readiness; explains how Swiss firms respond to regulations and tech opportunities
RBV	Internal capabilities and resources	Explains disparities in adoption success based on firm-specific assets and competencies
DCT	Adaptation and responsiveness to change	Highlights how firms integrate AI into BI by reconfiguring processes and enhancing agility

The TOE framework [2], [3], [15] offers a comprehensive lens for examining BI adoption by considering technological factors (such as the scalability and accessibility of BI software), organizational factors (including leadership support and internal expertise), and environmental influences (such as regulatory requirements and competitive pressure). This framework aligns well with the Swiss context, where both internal resource constraints and external demands play significant roles in digital transformation processes.

The RBV framework [19], [28] emphasizes that companies derive competitive advantage from internal capabilities, including data infrastructure, skilled personnel, and IT resources. In the context of BI, RBV helps explain why some Swiss firms—especially SMEs—struggle more with adoption due to limited internal capacity [20], [24]. It also highlights the importance of aligning BI tools with existing resources to ensure successful implementation.

The DCT framework [2], [7], [10] extends RBV by focusing on how firms adapt, integrate, and reconfigure resources to respond to rapidly changing environments. This is particularly relevant to AI-enhanced BI systems, which require continuous learning, data-driven responsiveness, and organizational agility. DCT provides a useful framework for analyzing how Swiss companies attempt to remain competitive by integrating new technologies like AI into their BI systems.

B. Impact of AI on BI Adoption

The integration of AI within Business Intelligence (BI) systems is reshaping the BI landscape, providing more advanced capabilities and accessibility. A key trend in this transformation is the shift from traditional BI tools to AI-powered systems capable of processing vast datasets in real-time and providing actionable insights. AI technologies, such as machine learning and natural language processing (NLP), enable BI systems to automatically detect patterns, generate predictive models, and offer insights without requiring extensive manual intervention. This change is especially significant in industries where fast decision-making is critical [28].

Another significant trend is the automation of data processing tasks, which increases efficiency and reduces human error. Bharadiya [5]. [6] compares BI and AI, emphasizing how AI enhances BI by automating complex processes like data cleaning, pattern recognition, and trend forecasting. This automation makes BI tools more efficient and accessible, particularly for businesses with limited technical expertise. AI-driven systems allow organizations to leverage BI capabilities without requiring specialized data science knowledge, broadening the accessibility of advanced analytics.

AI also facilitates smarter data management and analytics, improving decision-making processes and boosting organizational agility. Eboigbe [9] argue that AI's integration into BI systems allows businesses to quickly adapt to changing market conditions by generating predictive insights and identifying emerging trends. By automating the data analysis process, AI frees up resources for higher-level strategic tasks, increasing the overall efficiency of the organization. This transformation supports the growing need for real-time insights and agility, particularly in competitive markets

III. RESEARCH QUESTIONS

Despite ample research on BI solutions, the dynamic between AI and BI remains underexplored. Most studies view AI as a complement to BI, enhancing it through automation and predictive analytics [28], [5], [6]. Yet, the possibility of AI competing with or even replacing BI systems is less examined. This study aims to explore how AI might reshape or replace BI, particularly in Switzerland where AI adoption is progressing quickly.

Additionally, although many studies have examined BI adoption in various regions, there is limited research on the specific characteristics of Swiss companies as BI solution customers. Most studies on Swiss BI adoption cover general trends rather than the distinct challenges and opportunities within this market. Gaining insight into these regional nuances is essential for understanding how Swiss companies use BI tools, the business issues they address with BI, and the potential role of AI as a competing or complementary technology. This lack of detailed understanding highlights an opportunity to explore BI tool adoption in Switzerland and assess if AI could provide a better alternative.

This study aims to examine AI's role in influencing the acceptance and adoption of BI solutions among Swiss companies, exploring how AI is transforming the BI landscape as both a complementary technology and a potential competitor or replacement for traditional systems. The study will examine the challenges faced by Swiss market players in adopting BI tools, the business problems these organizations hope to solve with BI, and how AI's capabilities influence the adoption, functionality, and perceived value of BI solutions.

Given the identified research gaps and the goal of the study, the following research questions are formulated:

- ***RQ1:*** *What are the key challenges and factors influencing the adoption of BI solutions across different company sizes in Switzerland?*
- ***RQ2:*** *How do BI solutions enhance decision-making, operational efficiency, and data-driven strategies in organizations?*
- ***RQ3:*** *What is the role of AI in advancing the capabilities and accessibility of BI software for businesses?*

IV. METHODOLOGY

This study uses a qualitative case study approach to explore the adoption and impact of BI solutions, with a particular focus on the role of AI in enhancing BI software (Table 2). The research is based on an anonymized interview with the director of a Swiss BI software company specializing in enterprise resource planning (ERP) systems and BI solutions. This company primarily serves Small and Medium-sized Enterprises (SMEs) across various industries, providing a practical perspective on the challenges and benefits associated with BI adoption.

TABLE II. RESEARCH METHOD FRAMEWORK

Research Questions	**RQ1**	**RQ2**	**RQ3**
Theoretical framework	TOE Framework	Dynamic Capabilities Theory, RBV	AI-BI Relationship
Case study: Corresponding Interview Questions	• What are the main challenges your clients face when adopting BI solutions? • How does company size affect the adoption of BI solutions?	• How do BI tools influence decision-making and operational efficiency? • In what ways do BI tools support data-driven strategies? • What are the limitations of BI tools?	• How does AI improve BI software capabilities? • How will the integration of AI shape the future development of BI software? Do AI and BI complement or compete?

The interview questions were developed to align closely with the research objectives and theoretical frameworks guiding the study. Each question was designed based on the principles of relevance, clarity, and open-endedness, ensuring the collection of rich, qualitative insights. The formulation was guided by the TOE, RBV and DCT frameworks, ensuring that responses would reflect not only technical factors but also organizational resources and strategic adaptability. Furthermore, the questions aimed to elicit specific experiences and perceptions related to the three core research questions (RQ1–RQ3), focusing on adoption challenges, the added value of BI in decision-making, and the transformative role of AI.

The primary data for this research was gathered through a semi-structured interview, allowing the respondent to elaborate on their experiences and provide real-world examples. The conversation focused on the company's experiences with BI implementation, the factors influencing adoption across different contexts, the role of BI in improving decision-making and operational efficiency, and the integration of AI technologies to enhance the accessibility and functionality of BI software. The anonymized nature of the interview ensures confidentiality while retaining the depth of qualitative insights.

A thematic analysis of the interview transcript was conducted to identify key patterns and themes related to BI adoption and usage. Particular attention was paid to challenges such as data integration, resource constraints, and organizational readiness, as well as the role of AI in enabling advanced analytics, automation, and real-time insights. The analysis also examined how BI solutions enhance decision-making and streamline processes for Swiss companies.

While the findings of this study are based on a single case study, they offer valuable insights into the nuanced challenges and opportunities of BI and AI adoption in a real-world context. Ethical considerations were carefully addressed, with the participant's anonymity maintained and the interview conducted in compliance with research ethics guidelines.

V. RESULTS

The results of the qualitative case study highlight several key themes regarding the adoption of BI solutions and the role of AI in enhancing this software within the context of a Swiss BI software company. These findings provide insights into the challenges faced by businesses in adopting BI systems, how BI software enhance organizational capabilities, and the transformative potential of AI within BI technologies.

A. Key challenges and factors influencing BI adoption

The adoption of BI solutions among Swiss companies, both SMEs and larger organizations, is shaped by several key challenges and factors.

One of the primary challenges is data complexity and integration. Many companies operate with separate databases or legacy systems, such as Enterprise Resource Planning (ERP) or Customer Relationship Management (CRM) systems, which store crucial business data. The difficulty lies in consolidating these diverse data sources into a unified platform for efficient analysis: "The problem arises when you have multiple tools with separate datasets. You then have to integrate them, which involves a lot of work." This challenge is particularly pronounced in SMEs that lack the resources and technical expertise to manage complex data

integration tasks, although larger organizations face scalability issues as the volume of data grows.

Financial constraints also present a significant barrier, particularly for smaller companies. The adoption of BI tools involves substantial upfront investment in software, infrastructure, and training: "The entry price is quite expensive... it's a significant barrier for companies with fewer than 150 employees." For SMEs, these high initial costs are often prohibitive, despite the long-term benefits BI can offer in terms of operational efficiency and decision-making. Larger companies are generally better equipped but still need to justify these investments amidst competitive pressures.

Internal expertise and training are another critical factor influencing BI adoption. Many SMEs, in particular, lack the internal expertise to effectively use BI solutions. Even when the technical capabilities of BI tools are available, their success depends on employees' ability to understand and interact with data: "The real need is training on the importance of data—what data is, how it's collected... how it interacts across systems." Proper training is essential for maximizing the value derived from BI systems, but it is often inadequately funded or outsourced, limiting the effective use of the tools.

With the growing integration of AI into BI tools, the question of whether Swiss companies are skill-wise prepared to handle AI-enhanced BI becomes increasingly relevant. According to the interview findings, the general level of preparedness—especially among SMEs—is relatively limited. Although some firms demonstrate awareness and interest in AI capabilities, there remains a significant gap between interest and actual readiness to implement AI within BI systems.

Scalability is a concern for larger organizations that require BI tools capable of handling larger datasets and more complex analytics needs. The representative mentioned, "Larger companies often have a lot of detailed requirements and processes to manage," adding to the complexity of BI adoption. While scalability is essential for large organizations, even SMEs need tools that can evolve with their growing data and increasingly data-driven decision-making processes.

Another challenge is the availability and accessibility of clean, well-organized data. Many companies, especially SMEs, struggle to centralize or standardize their data. Without a clear strategy for data management and governance, businesses find it difficult to make full use of BI solutions: "It's critically important to rationalize and centralize these data sources." Companies lacking centralized, structured data cannot easily leverage BI tools, which limits their ability to generate valuable insights.

Lastly, the usability of BI tools is a significant factor for adoption across organizations. For BI tools to be effective, they must be user-friendly, enabling employees to easily interact with data to make informed decisions: "Tools like Tableau or Power BI are very intuitive... can easily ask something like, 'Can you show me my top-performing sales lines over the past year?'" These user-friendly interfaces encourage adoption, especially among non-technical employees who may not have experience with complex data analysis.

In industries like manufacturing, where data generation is high due to connected machinery, the need for advanced BI tools is especially evident. The representative noted, "If you are a manufacturing company, of course, you generate much more data because you likely have machines producing data." Industry-specific factors, such as the volume of data generated, play a critical role in driving the need for robust BI systems to manage and analyse the data effectively.

In summary, while all the above challenges play a role in shaping BI adoption, internal expertise gaps, financial barriers, and data integration issues were most frequently emphasized in the interview. Other concerns, such as scalability, data quality, and usability, were mentioned less often but still represent meaningful considerations depending on company size and context.

B. Enhancing decision-making and operational efficiency

BI solutions have significantly contributed to enhancing decision-making and operational efficiency in Swiss companies. One of the primary ways BI solutions impact decision-making is by enabling real-time data access: "With BI, we can see data in real-time, which allows management to make decisions faster and based on accurate data". This immediacy in data access empowers organizations to act swiftly, reducing reliance on outdated information and enabling more informed and timely decisions.

The ability to generate clear and actionable insights is another benefit of BI systems: "BI tools provide clear and actionable dashboards, allowing managers to track their budget performance and align with targets in real-time". This real-time monitoring not only aids decision-makers in aligning their operations with business goals but also ensures that key performance indicators (KPIs) are continuously evaluated, which helps organizations stay on course.

Furthermore, the integration of BI tools within organizations promotes better resource allocation and improves efficiency across departments: "BI systems help us allocate resources more effectively by identifying areas where we are underperforming or could improve". By pinpointing inefficiencies or gaps in performance, companies can reallocate resources to optimize operations, improving both productivity and profitability.

A significant advantage of BI solutions is their ability to automate manual processes, thus reducing time and effort in data management: "Previously, departments like finance had to compile reports manually and share them across the organization. Now with BI, that process is streamlined and automated". This reduction in manual work enhances operational efficiency, enabling employees to focus on higher-value tasks that drive business growth.

BI solutions also facilitate strategic alignment across departments. With a single, unified data source, "everyone has access to real-time information, enabling seamless collaboration and more informed decisions". This transparency across teams ensures that all stakeholders are working toward the same business objectives, fostering alignment and reducing discrepancies in decision-making.

Despite these advantages, the interview also shed light on the limitations of BI solutions. While BI tools provide vast benefits, there are areas where they still fall short. For instance, while BI systems can predict trends and offer insights, the representative mentioned that “many companies don’t have sufficient time-series data to build accurate forecasts”. This suggests that the effectiveness of BI tools in predictive analytics is contingent upon the quality and scope of the available data, which may limit their utility in some cases.

C. The role of AI in advancing BI capabilities

The integration of AI into BI software is revolutionizing how organizations manage, analyse, and utilize data. As AI continues to evolve, its impact on BI tools has expanded significantly, enhancing their capabilities and accessibility. According to the director of a Swiss BI software company, AI-driven BI systems are able to automate complex tasks such as data cleaning and trend forecasting, which traditionally consumed a significant amount of time and resources: "AI has made BI more efficient by automating complex tasks like data cleaning and trend forecasting. This saves a lot of time and effort". This automation not only improves the operational efficiency of organizations but also frees up resources that can be used for more strategic activities, enhancing overall business productivity.

One of the most notable advancements is in the area of data accessibility and user interaction. AI’s ability to enable natural language processing (NLP) allows users to interact with BI systems using conversational commands, which significantly lowers the barrier for non-technical users. The interview highlighted this development: "With AI-driven BI systems, users can interact with the system using natural language. For example, you can simply ask the system, ‘Show me my top-performing sales lines,’ and AI will generate the necessary data visualizations". This shift democratizes access to data, empowering individuals across an organization to derive actionable insights without requiring specialized technical knowledge.

AI also plays a critical role in predictive analytics, enabling BI systems to deliver real-time insights and trend forecasts: "AI enables more accurate predictions by analysing historical data and identifying patterns. This allows businesses to forecast trends and make proactive decisions". By leveraging AI's capabilities, companies can adjust strategies faster and stay competitive in a rapidly changing environment. The real-time nature of these insights enhances decision-making, allowing managers to act quickly and efficiently.

Further, AI-driven BI systems streamline data analysis by improving decision-making speed: "AI speeds up decision-making by providing insights in real-time. When data is processed automatically, managers can get information much faster, allowing them to make informed decisions quickly". This ability to process and analyse data instantaneously supports quicker, data-driven decision-making across various business functions, including sales, marketing, and operations.

While the role of AI in enhancing BI systems is increasingly significant, it raises the question of how the development of BI software will evolve with the continued integration of AI. The interview suggested that, in the future, AI will become an integral part of BI systems, with a growing shift towards fully automated and integrated solutions: "AI is integrated with existing systems like ERP platforms, making BI a more seamless part of daily business operations. It simplifies workflows by bringing all data together in one place for easier access and analysis". As AI continues to advance, BI systems will likely evolve into even more powerful tools capable of handling larger volumes of data and providing even more sophisticated insights. The future of BI software lies in fully automated systems where "all data flows into a centralized data lake and insights are generated dynamically".

When considering whether AI and BI complement each other or compete, the interview made it clear that AI is not competing with BI but instead enhancing its capabilities. "AI doesn’t replace BI; it complements it by automating tasks and making it more accessible,". The integration of AI into BI systems enhances their utility by providing additional functionalities that were previously difficult or impossible to achieve, such as predictive analytics, real-time insights, and improved data accuracy. Thus, AI and BI work together to create more efficient, intelligent, and accessible systems that enable businesses to make data-driven decisions faster and more accurately.

VI. CONCLUSION

This study explored how Artificial Intelligence (AI) influences the acceptance and adoption of Business Intelligence (BI) solutions in Switzerland, with a focus on understanding whether AI serves as a complement or a potential alternative to traditional BI systems. The findings, based on a qualitative case study of a Swiss BI software company, provide important insights for both practice and theory.

In response to the first research question (RQ1), the study found that the most frequently mentioned challenges affecting BI adoption in Switzerland include lack of internal expertise, financial constraints—especially for SMEs—and technical barriers related to data integration. Less commonly but still notably, issues of data centralization, tool scalability, and usability also shape adoption outcomes.

Regarding the second research question (RQ2), BI solutions were described as significantly enhancing decision-making and operational efficiency through real-time access to data, improved resource allocation, and better alignment with performance targets. However, the effectiveness of BI in predictive analytics is still limited by the quality and scope of available data.

For the third research question (RQ3), the integration of AI into BI systems was found to enhance functionality by automating complex tasks, enabling natural language queries, and improving accessibility for non-technical users. AI was not perceived as competing with BI, but rather as extending its capabilities, especially in areas like predictive analytics and real-time insights.

From a theoretical perspective, the study contributes to the TOE framework by highlighting how AI integration influences both the technological and organizational dimensions of BI adoption, particularly in resource-constrained environments like Swiss SMEs. It also reinforces the Dynamic Capabilities Theory by demonstrating how AI-powered BI systems support firms' ability to sense and respond to market dynamics. Finally, the findings support the RBV by showing that firms with stronger internal resources—especially data-literate employees—are better positioned to capture value from AI-enhanced BI tools.

The Swiss context reveals a practical gap between the increasing technological potential of BI-AI systems and companies' internal readiness to adopt them effectively. Based on the empirical insights, companies in Switzerland—particularly SMEs—would benefit from focusing their efforts on upskilling staff in both BI and AI simultaneously, prioritizing structured data management, and starting with modest, application-specific use cases that align with their strategic needs. Larger firms, meanwhile, should focus on integrating AI capabilities directly into their existing BI infrastructures and workflows to scale benefits more rapidly. These actions, grounded in observed Swiss practice, could help companies realize the full potential of AI-enhanced BI tools.

Although this study focuses on a single case in Switzerland, the findings are relevant for other national contexts where SMEs dominate and digital transformation is progressing. The lessons derived from the Swiss experience—particularly the importance of understanding BI and AI as interconnected rather than separate tools—can inform global strategies for intelligent data use in business environments increasingly shaped by automation and analytics.

Future research should expand on these insights by including multiple cases across sectors and countries to better capture the diversity of organizational strategies for AI-BI integration and to explore long-term performance outcomes.

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