M&A in the AI Era:

Tackling Implementation Challenges Head-On

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Whitepaper by

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AI is the new black, dominating conversations and captivating imaginations across industries. It is professed to offer numerous advantages, from encompassing data analysis to automated decision-making. For example, AI can support task automation, pinpoint potential areas for enhancement, and identify deficiencies, thereby fostering streamlined processes and heightened performance.

However, implementing AI poses distinct challenges compared to traditional technical integration, such as ethical issues such as privacy, consent, and fairness[1] and the need for large volumes of high-quality data for training[2]. It requires expertise in machine learning, data science, and AI ethics, which can be scarce and costly to acquire[3]. These differences necessitate a dynamic business environment capable of adapting to AI, deep learning, and machine learning. Despite many companies viewing AI as a familiar tool in business operations, implementation difficulties have led to a high failure rate, with over 80% of projects failing[4]. This is primarily due to a disconnect between those who plan or decide to use AI and those who implement it[5]. Interestingly, the failure rate in mergers and acquisitions (M&A) mirrors that of AI implementation[6]. One of the main reasons these transactions often fail is also attributed to a disconnect—this time between what the acquirer wants to obtain from the deal and the needs of the acquired firm post-transaction[7]. Nonetheless, successful outcomes in both areas are strong motivators for continued engagement.

The growing willingness among companies to adopt AI for M&A activities serves as a backdrop and motivation for this study. While existing research has mainly explored AI's applications in sectors like healthcare, education, and media[8], it has left unanswered questions about the unique challenges and success factors in implementing AI within the M&A sector. This study endeavors to address these questions by offering insights into the AI implementation process within the context of M&A,

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[1] Goodfellow, I., Bengio, Y., & Courville, A. (2016). Deep Learning. MIT Press.

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[3] Goodfellow, I., Bengio, Y., and Courville, A. (2016). Deep Learning. MIT Press.

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[6] Lewis, A. & McKone, D. (2016). So many M&A deals fail because companies overlook this simple strategy. Harvard Business Review (May 2016).

[7] Christensen, C. M., Alton, R., Rising, C., & Waldeck, A. (2011). The new M&A playbook. Harvard business review (March 2011).

[8] Kanbach, D. K., Heiduk, L., Blueher, G., Schreiter, M., & Lahmann, A. (2024). The GenAI is out of the bottle: generative artificial intelligence from a business model innovation perspective. Review of Managerial Science, 18(4), 1189-1220.

thereby enriching our understanding of this dynamic landscape.

To achieve this objective, in-depth interviews were conducted with three distinct groups of experts: AI researchers, tech-savvy M&A professionals, and AI implementation specialists. Each group offers a unique perspective on AI implementation's challenges and success factors (Table 1). By synthesizing these diverse perspectives, this study provides a detailed understanding of the nuances involved in successfully implementing AI within the context of M&A, ultimately aiming to reduce the high failure rates prevalent in both AI initiatives and M&A transactions.

Table 1: Interviewed Groups: AI Researchers, M&A Professionals, and AI Implementation Specialists

INTERVIEW	RATIONALE GROUP
AI RESEARCHERS	The group consisted of three individuals from Swedish research institutions deeply engaged in the theoretical or applied study of AI and related fields. Their participation provided a solid foundation of knowledge and offered insights into the latest scientific advancements in AI.
M&A PROFESSIONALS	The group included three professionals experienced in navigating the complexities of corporate acquisitions, mergers, and business integrations. Their strategic and operational insights shed light on integrating new technologies, particularly AI, into existing business frameworks.
AI IMPLEMENTATION SPECIALISTS	This group comprised three individuals with direct, hands-on experience in developing and implementing AI technologies across various industries. Their practical knowledge gleaned from real-world applications of AI offered invaluable insights into the operational challenges and benefits of AI technology.

The rest of the paper is structured as follows: First, we synthesize the literature on AI in business, exploring theoretical frameworks pertinent to understanding its implications. Thereafter, we present empirical insights on AI implementation challenges and success factors, drawing from real-world data and methodologies. Finally, we offer a forward-looking perspective for future enterprises, deriving conclusions and implications from the synthesized literature and empirical findings.

Literature Review: Unlocking Business Value with AI

Bataller and Harris developed a 2-by-2 matrix model to illustrate the possibilities of AI in creating business value (Figure 1) [9]. Their model suggests that AI's utilization and value generation can be realized through either automation or enhancement, contingent upon two primary variables. These variables include data complexity and work complexity. Tasks characterized by low complexity are typically routine, predictable, and administratively standardized. Conversely, tasks of high complexity are ad hoc, necessitate human judgment, and are inherently unpredictable. Data is considered low complexity when structured, stable, and of low volume, while high-complexity data is unstructured, volatile, and voluminous. Automated AI systems are adept at managing tasks with low complexity in both work and data realms, whereas tasks involving high complexity in both areas can greatly benefit from AI as a supportive tool.

The model delineates four domains based on data and work complexity: Efficiency, Expertise, Effectiveness, and Innovation. Below, a succinct description of these domains is provided, along with concrete examples of their application within the realm of M&A.

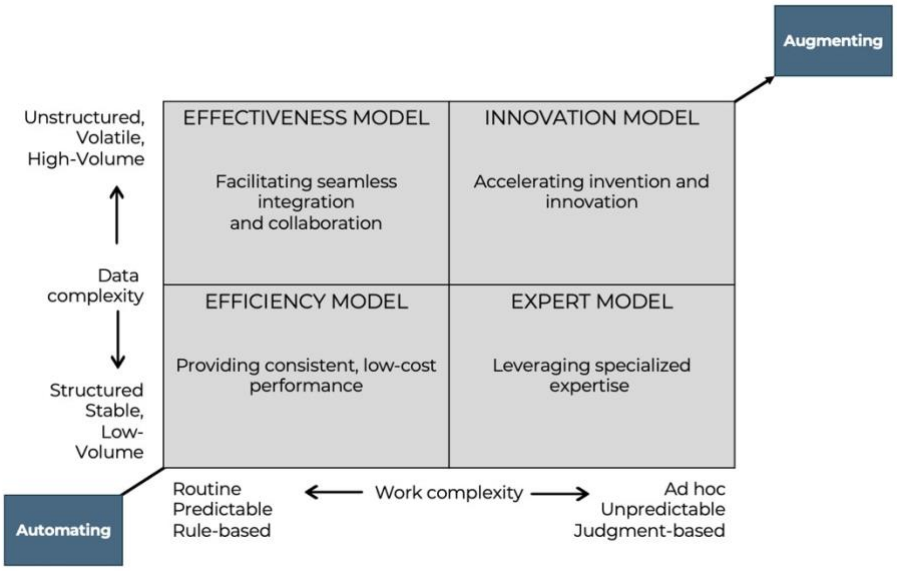

Figure 1: Framework for AI Opportunity Identification (adapted from Bataller & Harris, 2016)

[9] Bataller, C. & Harris, J. (2016). Turning Artificial Intelligence into Business Value. Today.

Efficiency Model: This domain encompasses scenarios where both data and tasks exhibit low complexity, and the primary objective is to achieve cost savings by optimizing machinery and labor. For example, automated screening of potential target firms based on predefined criteria, such as financial performance and market positioning, streamlines the identification of suitable acquisition opportunities.

Expert Model: Data complexity remains low in this domain, but the work involved is characterized by high complexity. The goal is to leverage the expertise of knowledgeable individuals, with AI serving as a supportive tool. It provides insights and recommendations derived from analyzed data to complement the advice offered by professionals. For instance, this involves utilizing AI tools for comprehensive financial analysis of target firms, incorporating predictive modeling and scenario analysis to evaluate long-term viability and growth potential.

Effectiveness Model: This domain entails high data complexity but low task complexity and seeks to enhance organizational outcomes. Success hinges on effective coordination, communication, and knowledge sharing as tasks are distributed across the organization. For instance, leveraging AI-powered management systems (including virtual agents) facilitates the dissemination of insights and lessons learned from previous M&A experiences, thereby enhancing effectiveness across the organization.

Innovation Model: This realm encompasses scenarios characterized by high complexity in both data and work. Here, the objective of AI is to augment individuals' capabilities. For instance, employing AI-driven predictive analytics facilitates the forecasting of technological advancements and market trends while anticipating changes in consumer preferences. This, in turn, supports strategic decision-making and promotes the development of innovative solutions.

This framework effectively showcases the considerable potential of AI. Yet, it begs the question of whether AI truly lives up to its hype. In other words, in what ways is it actually valuable within the corporate finance market today? A study published earlier this year (2024) delved into this question by investigating whether large language models (LLMs) could enhance investment decisions from a portfolio perspective [10] . It concluded that ChatGPT serves as an assistant or co-pilot to portfolio managers rather than functioning as a prophet.

[10] Ko, H. & Lee, J. (2024). Can ChatGPT improve investment decisions? From a portfolio management perspective. Finance Research Letters, 64, 105433.

Moreover, their findings indicate that while inexperienced investors or those with limited knowledge in certain areas derive the greatest benefit from ChatGPT, as it also serves as an educational tool, highly proficient portfolio managers primarily enhance their productivity by allocating their focus to more critical tasks.

Moving forward, it is crucial to understand the success factors underpinning AI's potential and the obstacles that hinder its broader adoption. Maximizing the value of AI generally demands significant changes beyond simply undergoing digital transformation. An organization's structure and operational methods likely require substantial alterations to remain relevant, efficient, and competitive. Several studies have investigated generalizable success factors and implementation challenges[11, 12, 13, 14, 15, 16, 17, 18, 19]. The summarized findings are presented in Table 2 below, followed by a brief elaboration.

[11] Lieder, F., Chen, P. Z., Stojcheski, J., Consul, S., & Pammer-Schindler, V. (2022). A cautionary tale about AI-generated goal suggestions. In Proceedings of Mensch und Computer 2022, 354-359.

[12] Wolff, J., Pauling, J., Baumbach, J., & Keck, A. (2021). Success Factors of Artificial Intelligence Implementation in Healthcare. Frontiers in Digital Health, 3, 594971.

[13] Schlegel, D., Schuler, K., & Westenberger, J. (2023). Failure factors of AI projects: results from expert interviews. International journal of information systems and project management: IJISPM, 11(3), 25-40.

[14] Kutz, J., Neuhüttler, J., Spilski, J., & Lachmann, T. (2022). Implementation of AI Technologies in manufacturing—success factors and challenges. In The Human Side of Service Engineering, Proceedings of the 13th International Conference on Applied Human Factors and Ergonomics (AHFE 2022), New York, NY, USA, 24-28.

[15] Igna, I. & Venturini, F. (2023). The determinants of AI innovation across European firms. Research Policy, 52(2), 104661.

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[19] Parra, C. M., Gupta, M., & Dennehy, D. (2021). Likelihood of questioning ai-based recommendations due to perceived racial/gender bias. IEEE Transactions on Technology and Society, 3(1), 41-45.

Table 2: Key Factors Influencing AI Success and Challenges Identified in the Literature

TYPE	FACTOR
SUCCESS FACTOR	**Planning and goals** must be clear, focused, and simplified
	Leadership and support should be strong, resourceful, and provide effective guidance
	Training and skills require continuous education, development, and collaboration
	Organizational culture needs to be supportive, engaging, experimental, and innovative.
IMPLEMENTATION CHALLENGE	Ensuring **knowledge and expertise** are free from bias and misconception
	Managing **high costs** related to hardware, software, data storage, and integration
	Achieving seamless **technological integration** with a focus on compatibility, adjustments, and longterm structure
	Upholding **reliability and ethics** through trust, transparency, accountability, and ethical practices

Identifying the purpose and planning the execution of AI implementation is critical. Setting precise goals and starting with simpler projects can mitigate risks and lay a foundation for success. A project manager skilled in both technical and business areas is essential, as their leadership and goal-setting drive the project forward. Many AI projects fail due to insufficient management support, underscoring the importance of strong corporate backing and adaptable leadership.

Successful AI implementation requires employees with the right skills to manage organizational changes and provide training. Continuous education and collaboration, including with external experts, ensure that staff remain competent and well-informed. Building a culture that supports innovation and experimentation is also vital. Engaging employees in the AI process fosters acceptance and integrates the technology across the entire organization, not just the IT department.

Ensuring that knowledge is free from bias and misconceptions is crucial to avoid the pitfalls of biased algorithms and unfounded fears about job loss. High costs related to hardware, software, data storage, and integration pose significant challenges. Companies must invest wisely in these areas and manage integration with existing systems to avoid disruptions.

Achieving seamless technological integration requires compatibility and effective communication among all systems. Adjusting existing infrastructure to support new AI features ensures long-term sustainability and future growth. Trust in AI systems is another significant challenge, focusing on reliability and ethical considerations. AI's lack of emotional states and accountability can hinder user trust, making transparency, accountability, and ethical practices essential to building confidence in AI technologies.

These factors serve as the basis for our empirical analysis, delving deeper into the M&A market by providing insights from three groups of experts: AI researchers, tech-savvy M&A professionals, and AI implementation specialists.

Insider Perspectives

A thematic analysis revealed 18 crucial factors for AI implementation [20, 21]. These factors are categorized into six themes: three pertain to success factors and three to challenges.

Success Factors

The respondents highlighted several key success factors for successful AI implementation, one of which was the early establishment of clear goals and expectations for the AI system. Since setting goals and expectations starts from the top, many respondents emphasized the importance of having leadership with an understanding of AI to prevent a disconnect between aspirations and feasibility. Additionally, fostering an innovation-friendly culture where new ideas are encouraged and tested without fear of failure and promoting transparency within the company were deemed critical. Besides this, providing access to various software and platforms while granting employees autonomy in selecting tools to achieve objectives and ensuring management respects and supports their choices were identified as important in driving progress.

Proficiency in understanding complex algorithms and data structures was highlighted as vital for a successful implementation. Consequently, employees with AI skills are highly valuable and significantly contribute to successful project execution while implementation experts are essential for the success of more complex projects. Continuous

[20] Braun, V. & Clarke V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology. Qualitative research in psychology, 3(2), 77-101.

[21] Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. International journal of qualitative methods, 16(1), 1609406917733847.

education emerged as a pivotal success factor, ensuring employees remain adept at adopting and utilizing new techniques, methods, and approaches amidst rapid AI evolution.

Flexibility in the structure of existing systems was identified as pivotal for successful implementation. This flexibility facilitates the seamless integration of new AI systems into the company's current system landscape. This integration flexibility enables easier adaptation and collaboration with multiple systems, thereby facilitating value creation. Additionally, the necessity for a robust IT infrastructure within acquiring companies was stressed to prevent system overload or other adverse effects.

Integrated into the planning process, effective risk management emerged as crucial for addressing potential risks. Initiating projects on a small scale within a controlled environment was emphasized to mitigate risks and foster a culture of change. This approach not only allows for the identification and resolution of issues early on, ensuring smoother scaling and implementation but also makes everyone in the firm more open to innovation while minimizing potential downsides. By embedding these practices, organizations can better navigate uncertainties and enhance overall project success.

Challenges

Respondents identified integration complexity and data quality as primary challenges in adapting AI systems to existing business processes and IT systems. Integrating new AI tools can be intricate and time-consuming, particularly when data must be meticulously adjusted to align with new systems. High data quality standards are imperative for effective AI training and precise decision-making, with the risk of erroneous decisions if data organization and credibility are compromised. Privacy and copyright protection, alongside risks of data breaches and information leaks, were highlighted as potential obstacles and security concerns.

A lack of AI knowledge emerged as a major challenge, complicating both implementation and operation, necessitating specialized skills in machine learning and data science. Difficulties in recruiting and retaining qualified personnel limit companies' capacity to manage AI projects effectively. For example, if a company starts an AI implementation and then loses key employees in the middle of the process, this can create significant obstacles. These employees often possess unique knowledge and experience

that is difficult to replace, and their absence can cause the project to stall or fail.

Resistance to change was also cited as a challenge, often stemming from employees' reluctance to abandon established processes and an infrastructure incompatible with smooth AI integration. Ethical issues and trust in AI were additional concerns, particularly regarding the handling of sensitive information such as personal and financial data.

Initial costs were highlighted as a significant challenge in AI implementation due to substantial investments in hardware, software, and expertise. Customizing AI to specific business needs further inflates these costs, particularly if an acquired company develops its own AI model, necessitating costly maintenance. The demand for specialized resources emerged as a challenge, requiring acquiring companies to establish dedicated expert teams to develop and maintain AI systems, ensuring their relevance and effectiveness. Maintenance and updating of AI systems were universally perceived as time-consuming and resource-intensive, demanding significant time and expertise for effective adaptation and management.

Different perspectives on the success factors and implementation challenges

Figure 2 visually represents the three distinct groups' perspectives on identified success factors and challenges. The thickness of the arrows indicates the proportion of each group mentioning specific themes, with thicker arrows denoting higher mention rates.

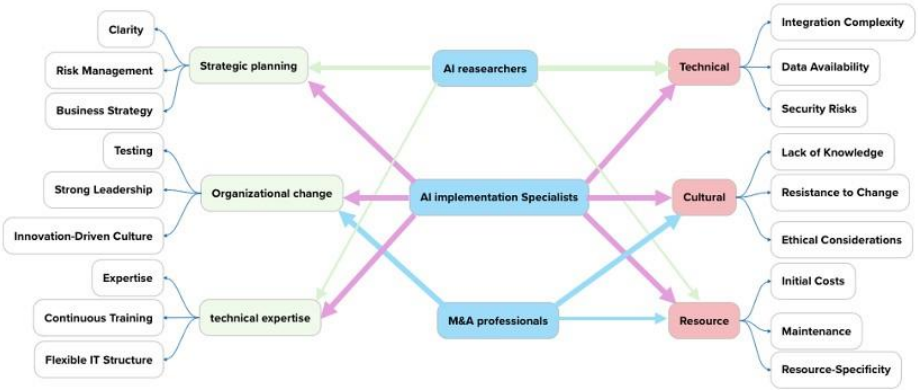

Figure 2: Visualization of Perspectives on Identified Success Factors (left-hand side) and Implementation Challenges (right-hand side)

The visualization highlights distinct viewpoints among three groups of experts regarding success factors and implementation challenges. AI researchers underscore technical aspects, including integration complexity, data availability, and security risks, as the principal challenge, while underscoring strategic planning—encompassing clarity, risk management, and business strategy—as the most important success factor. Conversely, M&A professionals prioritize organizational change, embracing frequent testing, robust leadership, and an innovation-centric culture, as the pivotal success factor, juxtaposed with cultural dimensions entailing a lack of knowledge, resistance to change, and ethical considerations as the primary challenge. Even though AI implementation specialists emphasized all six success factors and implementation challenges at the highest level, they placed less importance on certain elements that the other groups highlighted, such as business strategy within strategic planning regarding success factors and lack of knowledge about cultural challenges regarding obstacles.

This (generalizable) finding warrants attention: Interviewing diverse experts revealed the importance of considering different perspectives to gain a comprehensive understanding of AI implementation. To put it concisely, simply relying on a single group's perspective risks neglecting critical elements necessary for effective implementation.

A Forward-looking Perspective

To better comprehend AI's value proposition, it is beneficial to conclude this whitepaper by examining the Johari Window, originally developed by American psychologists Luft and Ingham in 1955 [22] . The framework focuses on two factors: knowledge and awareness. Mapping this framework to AI presents different scenarios of how AI may deliver value (Figure 3).

[22] Luft, J. & Ingham, H. (1955) 'The Johari window, a graphic model of interpersonal awareness', Proceedings of the western training laboratory in group development.

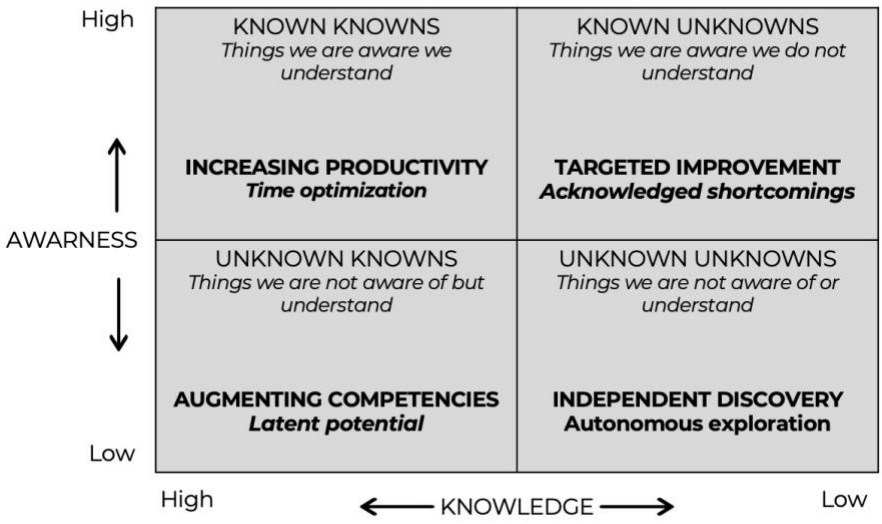

Figure 3: The Johari Window Framework Applied to AI

The "known known" domain, which includes things we are aware of and understand, represents the lowest level. Here, AI implementation increases productivity by automating routine tasks, freeing time for high-value activities. This can indirectly decrease the high failure rates in M&As, as more time could be allocated to ensuring the deal's success.

The "unknown known" and the "known unknown" represent the intermediate level. The "unknown known" domain includes things we are not aware of but understand, while the "known unknown" domain includes things we are aware we do not understand. By distinguishing between unknown knowns and known unknowns, organizations can better understand and leverage AI to address both latent potential and acknowledged shortcomings, enhancing overall effectiveness and reducing failure rates in M&As.

Finally, the advanced level, the "unknown unknown" domain, includes things we are not aware of or understand. Here, advanced AI autonomously discovers new insights and opportunities previously unknown to employees and management. This can lead to innovative strategies and solutions, reducing failure rates in M&As and improving performance.

Today, AI primarily serves as a tool for increasing productivity, a role that, while immensely valuable, is relatively easy to achieve at the individual level. Our findings indicate that investing time and financial resources to stay updated and experiment is crucial for organizations aiming to lead in this technological revolution and achieve more ambitious goals, namely to utilize AI for targeted improvement, augmenting competencies, and

independent discoveries. Moreover, it is imperative to have an adaptable IT infrastructure with high data quality that allows frequent, early-stage implementation testing with smaller projects. This approach minimizes downsides as it enables early identification of key risks, such as limited training data that can lead to reliance on fictional data with limited utility, while fostering a culture of experimentation and adaptation. Strategic foresight, clearly defined objectives, and leadership equipped with a comprehensive understanding of AI are indispensable. Finally, it's crucial to identify and retain personnel with AI skills or hire them as consultants, as these skills are still not widely available in the job market. It's also important to provide continuous education for the entire workforce to keep up with the rapid development of AI.

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Based on the contributions from interns towards their M. Sc. Thesis in data and systems science at Stockholm University, accessible HERE.

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