

**Challenges and boundaries of AI-implementation in Professional Service Firms -
especially in neo-PSFs**

Track: Management Consultancy

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Abstract:

Professional service firms (PSFs) are increasingly integrating artificial intelligence (AI) to enhance productivity and service delivery. However, AI adoption presents both opportunities and challenges, particularly for neo-PSFs (e.g. management consultancies), which operate with fluid boundaries and diverse competencies. This study investigates the challenges and limitations of AI implementation in neo-PSFs through a two-part qualitative approach: a systematic literature review and semi-structured expert interviews. The research highlights key operational, ethical, and structural constraints, such as professional autonomy erosion, data security concerns, and task redefinition. By comparing AI adoption in neo-PSFs with classic PSFs & general organizations, the study identifies distinct challenges and proposes strategies for balancing technological innovation with professional identity. Findings contribute to ongoing discourse on AI's disruptive impact and offer practical insights for organizations navigating AI-driven transformations. The study provides strategic recommendations for mitigating risks and optimizing AI integration in knowledge-intensive firms, addressing critical research gaps in PSF digitalization.

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1. Introduction

Today Professional service firms (PSFs) are facing increasing pressure from both external and internal AI influences (Yang, Blount and Amrollahi, 2024). Historically PSFs regarded as technology laggards are now compelled to embrace digital technologies, like AI, to work on increasing productivity and service delivery (Smets et al., 2017; Falconbridge, Sarwar and Spring, 2023). This change that comes along with many opportunities has its challenges and boundaries. PSFs will face possibilities and difficulties with the advancement of AI. While AI excels at data processing, analysis, and risk assessment, crucial business choices frequently require human judgment and ethical issues that computers cannot address (Kondapaka et al., 2023).

The blending of traditional expertise with technological capabilities highlights the redefinition of new roles and skills such as legal technologists and data scientists (Brooks, Gheres and Vorley, 2020). PSFs experience a structural shift with AI integration, which involves job polarization where empowerment of low-skill workers occurs along with the threat to the role identity of highly skilled professionals (Monod et al., 2024). Moreover, there is a shift in work redistribution with AI adoption and redefining traditional organisational structures (Benbya, Davenport and Pachidi, 2020).

This study explores the critical dimensions of AI integration within PSFs, with a particular focus on neo-PSFs, to assess their distinct challenges and opportunities amid ongoing industry transformations (Falconbridge, Sarwar and Spring, 2023; Nordenflycht, 2010). While AI offers numerous advantages, it also introduces significant challenges and constraints. This research aims to identify and analyze the key barriers to AI adoption in PSFs, particularly in neo-PSFs, to develop a deeper understanding of the limitations associated with AI implementation in professional service firms (Trincado-Munoz, Cordasco and Vorley, 2024).

2. Theoretical Foundation

2.1 Professional Service Firm

To clearly understand the research topic, a few concepts need to be defined. PSFs are knowledge-intensive firms, which depend on the specialized knowledge and expertise of their employees and incorporate various sectors such as legal, accounting, engineering, and management consultation (Nordenflycht, 2010). Characteristics of PSFs include knowledge intensity, low capital intensity, and professionalized workforce (Nordenflycht, 2010; Goto, 2022).

However, digitalization and the emergence of AI models altered these characteristics, introducing hybrid roles and transforming traditional domains of expertise (Davenport et al., 2020; Yang, Amrollahi and Marrone, 2024).

According to Nordenflycht (2010), the evolution of Neo PSFs represents a wider range of PSFs, including firms such as management consultants, which compared to Classic PSFs have diverse operating models. Neo PSFs have a wide array of competencies and expertise, have ambiguous boundaries, low entry barriers, and prioritize knowledge intensity above professional standards (Malhotra, Smets and Morris, 2016).

Neo-PSFs encompass advisory services that are knowledge-intensive but lack the same level of professionalization found in classic PSFs (Nordenflycht, 2010).

The confluence of classic and neo-PSF lines may be seen in how market needs, and innovation are changing the PSF environment. Accounting firms are expanding their core services to include legal, AI consulting, and data analytics solutions, while consulting firms are adding e.g. healthcare advisory or digital marketing services, demonstrating the growing overlap between PSF categories (Bezuidenhout et al., 2023). Furthermore, Goto (2023) emphasizes how

professionals inside such firms make meaning of AI disruptions, recommending a re-evaluation of professional standards and organizational structures.

2.2 Artificial Intelligence

AI refers to machines' capacity to execute cognitive activities such as automating physical processes, solving problems, making judgments, and innovating (Benbya, Davenport and Pachidi, 2020). However, AI adoption in organizations is challenging. Integrating AI into workflows necessitates bridging traditional knowledge with AI-driven processes, frequently redirecting attention to high-value strategic activities (Yang et al., 2024). The integration of AI into organizational workflows requires significant investments in complementary systems and organizational changes (Miller and Davenport, 2021). This includes modifying existing technology architectures, reskilling employees, and adapting business processes, all of which can initially reduce productivity before leading to long-term gains (Benbya, Davenport and Pachidi, 2020). Concerns about AI systems' autonomy in decision-making and potential biases, have been raised (Kondapaka et al., 2023). Furthermore, AI technologies pose risk to information privacy and security, particularly in areas such as medical care and financial administrations, where sensitive data could be revealed by AI-driven insights during information breaches (Trincado-Munoz, Cordasco and Vorley, 2024). According to Cordasco et al. (2021) and Belanche et al. (2024), emerging AI development may replace people in knowledge-intensive tasks. Thus, there is a need to balance the potential benefits of AI implementation with its risks in Neo PSFs.

2.3 Research Gap

Although the deployment of AI is causing significant changes, the impact on restructuring professional roles and organizational boundaries has yet to be studied (Ahuja, Heinzmann and Klegg, 2019; Perner, 2021). Current studies underline the shift in roles and duties by highlighting how AI disrupts professional competence and decision-making processes (Ahuja, Heinzmann and Klegg, 2019). Perner (2021), further discusses how AI is redefining professional autonomy and moving the boundaries of professional collaboration. Similarly, Trincado-Munoz, Cordasco and Vorley (2024) and Yang, Blount and Amrollahi (2024) identified ethical and operational challenges of AI, including data biases, accountability, and risks in service delivery, but did not examine how these issues specifically manifest within the dynamic structures and highly competitive environment of Neo-PSFs. Other studies have also addressed operational and ethical concerns related to AI (Trincado-Munoz, Cordasco and Vorley, 2024; Yang, Blount and Amrollahi, 2024). AI has been extensively studied for its ability to enable efficiency and create new value propositions (Benbya, Davenport and Pachidi, 2020). However, AI's broader implications on redistributing labor, professional identity, and trust in knowledge-intensive PSFs require further research, especially given their reliance on knowledge workers who value autonomy and collaboration (Beltagui et al., 2017; Kondapaka et al., 2023). Recent research has highlighted that while several studies have examined the negative effects of AI and new, little is known about their specific impact on professional services (Trincado-Munoz, Cordasco and Vorley, 2024). Additionally, there is no explanation of the origin and assessment of risks by AI. The insights gained from the studies conducted on law and accounting firms might not apply to all professions or PSFs (Falconbridge, Sarwar and Spring, 2023).

Neo-PSFs, which are distinguished by their knowledge intensity, fuzzy boundaries, and entrance barriers, have received less attention in contrast to classic-PSFs, such as law and accounting firms, which have garnered significant attention. In particular, the unique characteristics of Neo-PSFs amplify the challenges posed by AI, such as the redefinition of expertise, cooperation boundaries, and professional autonomy (Malhotra, Smets and Morris,

2016; Smets et al., 2017; Perner, 2021). Therefore, sector-specific research on AI adoption challenges in Neo PSFs is needed (Falconbridge, Sarwar and Spring, 2023).

This leads us to the research question: *What challenges and boundaries exist in the implementation of AI in Neo-PSFs?*

The aim is to analyse the challenges and boundaries of general AI implementation in organisations, as well as existing studies on classical PSFs, particularly with regard to operational and ethical issues (Trincado-Munoz, Cordasco and Vorley, 2024) and professional autonomy (Perner, 2021). By examining these aspects in the context of the specific characteristics of neo-PSFs, the study aims to identify similarities and differences and thus close existing research gaps.

3. Methodology

For answering the research question, this study follows a two – part research approach. A systematic literature review and semi-structured expert interviews are conducted (Kondapaka et al., 2023).

3.1 Literature Review

To identify the challenges and limitations of AI integration in Neo-PSFs, the systematic literature study will follow Cooper's Taxonomy of Literature Review (Randolph, 2009). Using the integrative review method of Dwertmann and van Knippenberg (2021), the study combines theory-inconsistent findings and sets a course of action.

It includes a comprehensive search of relevant databases like Web of Science, Google Scholar and EBSCO Host. The review considers literature that is ranked 4*, 4, or 3 in the AJG Ranking 2024 when assessing the quality of the studies. Establishing strict inclusion and exclusion criteria is a crucial step in this process because it ensures the validity and applicability of the chosen research (Snyder, 2019). This process resulted in 66 papers. The studies will be initially categorized based on theoretical criterias relating to AI and organizational theory, capturing similarities and variations in findings (Dwertmann and van Knippenberg, 2021). To ensure a methodical approach, key categories such as technological, operational, legal, ethical, organizational, future-focused, cultural, market, and competitive challenges are developed and analysed. These categories are derived from studies on classic PSFs and research on the theories and challenges related to AI deployment in businesses. They serve as the foundation and framework for the qualitative analysis.

3.2 Expert Interviews

The second phase includes gathering qualitative data through semi-structured interviews with a mix of closed- and open-ended questions (Adams, 2015). An interview guideline was developed to address the asymmetrical dynamic of semi-structured interviews and enable result comparison (Adams, 2015). It draws on challenges and boundaries of AI implementation discussed in the literature review and was iteratively refined through a circular process (Lindgreen et al., 2021). A range of senior experts from different Neo-PSFs were selected for the interviews. A thematic analysis will be conducted to systematically examine the qualitative findings by identifying, analyzing, and reporting patterns within the interview data (Braun and Clarke, 2006). To analyse the interview data, we will transcribe the interviews (Mey and Mruck, 2010) and use MAXQDA for coding and thematic visualization (Daif and Elsayed, 2024). The analysis will combine deductive classification with inductive categorisation, supported by a codebook to ensure consistency (Fereday and Muir-Cochrane, 2006). This approach will generate new insights (Braun and Clarke, 2006). These results will also be a point of discussion at the BAM 2025 conference to see if other scientists have further ideas or suggestions.

4. Expected results and contributions

By conducting an integrative and systematic literature review, this study identifies the existing challenges and boundaries of AI implementation in general organizations and, more specifically, in classic PSFs. These findings are then compared with empirical data from around 30 interviews conducted with members of neo-PSFs, particularly in the field of management consulting. This comparison allows us to highlight key similarities and differences in AI adoption across these organizational types. Thus, this study makes a valuable contribution to both academic research and practical applications, particularly for professionals in the consulting industry. This study addresses key research gaps and responds to existing calls for research on the influence of AI on PSFs (Smets et al., 2017), the challenges and limitations faced by PSFs (Faulconbridge, Sarwar and Spring, 2023) and the specific dynamics of AI implementation in neo-PSFs (Trincado-Munoz, Cordasco and Vorley, 2024; Faulconbridge, Sarwar and Spring, 2023). Furthermore, the study contributes to ongoing research on AI's impact on neo-PSFs by exploring major challenges such as resistance to change, ethical concerns, and the disruption of professional roles. Building on Perner and Werr (2023) concept of creative accumulation, this research examines how neo-PSFs navigate obstacles by integrating traditional expertise with modern technologies. A key focus of the study is on ethical and operational risks associated with AI, including the "black box" dilemma, accountability issues, and data security concerns, all of which are particularly relevant in neo-PSFs. The study highlights industry-specific challenges, such as fluid organizational boundaries and diverse operating models, which necessitate alternative approaches compared to classic PSFs (Nordenflycht, 2010; Trincado-Munoz, Cordasco and Vorley, 2024; Malhotra, Smets and Morris, 2016). Moreover, it provides practical insights that help PSFs reconcile technological innovation with maintaining professional identity and standards, offering strategic recommendations for successful AI adoption (Kronblad, 2020; Goto, 2022). By addressing the disruptive impact of AI on neo-PSFs, this study makes a significant academic contribution while also offering practical guidance for organizations seeking to navigate AI-driven transformation.

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