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PLATFORM BUSINESS MODELS: ADDRESSING ORGANIZATIONAL, SECTORAL AND SOCIETAL DIMENSIONS IN AN AZERBAIJANI CONTEXT

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Abstract. Digital technology platforms - "DTP"s are increasingly central to business model innovation, yet existing research has mainly focused on single-country cases and positive effects, overlooking contextual, organizational and societal downsides. Building on Bartczak's work on Polish firms, this article examines how DTPs influence business model innovation in Azerbaijani small and medium-sized enterprises - "SME"s in the traditional stationery sector. The study addresses gaps related to cross-country generalisability, firm size and internal capabilities, sector-specific dynamics, negative impacts and regulatory environment. In this article, a mixed-methods design was applied. A structured survey of 50 stationery SMEs captured adoption patterns, perceived impacts, success factors and barriers, while ten semi-structured interviews provided qualitative insights into organizational culture, consumer involvement, risks and long-term strategic issues. The findings confirm that DTPs enhance competitiveness, market reach and customer engagement even in a developing economy and traditional industry. At the same time, SMEs face significant constraints related to skills, infrastructure, financial resources and platform dependency, and consumer co-creation remains limited. The article contributes a more balanced view of platform business models in an emerging market, and offers implications for SME managers, policymakers and platform operators.

Keywords: digital technology platforms; business model innovation; SMEs; stationery industry; Azerbaijan

INTRODUCTION

Digital technology platforms have become a key driver of business model innovation in many industries. They enable new forms of value creation and capture by orchestrating interactions among multiple user groups and leveraging network effects. Prior research, including Bartczak's comprehensive studies on Polish firms, shows that platform adoption can transform operations, strengthen competitiveness, involve consumers in innovation and embed advanced technologies such as artificial intelligence into business processes (Bartczak, 2021, p. 746), (Bartczak, 2024, p. 58). However, these studies tend to emphasise success stories and remain limited to specific national and sectoral contexts. But several important gaps follow. First, most empirical work is based on one country, raising questions about how far existing findings generalise to emerging economies and traditional sectors. Second, internal organizational characteristics such as firm size, culture and digital capabilities are often treated superficially, although SMEs clearly face different challenges from large corporations. Third, potential negative consequences of platformisation—platform dependency, market concentration, labour issues, privacy and data governance—have only recently attracted systematic attention. Finally, many analyses rely on cross-sectional survey data and underplay the qualitative, processual and long-term aspects of platform integration.

This article seeks to extend the understanding of platform-driven business model innovation by addressing these limitations. It examines how DTPs are adopted and used by SMEs in Azerbaijan's stationery sector, a traditional industry that has begun digital transformation relatively late. The research focuses on differences in platform impact across firm sizes and organizational profiles, sector and context-specific barriers and opportunities, and broader societal and regulatory implications, alongside commonly cited benefits. The aim of the study is to analyse the role of DTPs in shaping business model innovation among Azerbaijani stationery SMEs, considering firm size, sectoral particularities, potential drawbacks and wider societal effects. To achieve this aim, a mixed-methods approach was adopted, combining a survey of 50 firms with ten in-depth interviews.

Digital platforms are generally defined as socio-technical architectures that connect multiple user groups and facilitate interactions, transactions and joint value creation in multi-sided markets (Constantinides et al. 2018, p. 385). Compared with traditional "pipeline" businesses, platform firms scale more easily, orchestrate ecosystems and often place customers in an active role as co-creators of value. Empirical studies document multiple positive outcomes of DTP adoption as improved operational efficiency, expanded market reach, enhanced customer experience and increased innovation capability (Han et al. 2024).

At the same time, more nuanced research has identified several underexplored dimensions. First, many studies treat firms in a relatively homogeneous way. Recent work shows that SMEs encounter specific "pathways and pitfalls" in B2B platform adoption, often lacking the financial resources, IT infrastructure and specialised human capital available to large firms (Marzi et al. 2023, p. 87). Without sufficient leadership support and digital skills, SMEs may struggle to exploit platform opportunities.

Second, platform strategies differ across industries. Industrial platforms in manufacturing support new cooperative business models and Industry 4.0 solutions, while consumer-facing platforms emphasise marketing,

distribution and customer engagement (Veile et al. 2022, p. 404). Traditional sectors such as stationery or agriculture have usually been late adopters, and their platform usage often remains focused on basic e-commerce and supply-chain functions.

Third, the geographic and market context matters (OECD, 2021), (OECD, 2022). Much of the platform literature draws on cases from large and advanced economies such as the US, EU and China. Emerging markets face additional constraints in terms of digital infrastructure, broadband penetration, digital skills and institutional support. Reports on Azerbaijan highlight that SMEs lag behind regional peers in digitalisation, with gaps in broadband access, skills and ecosystem support. This context may strongly shape platform adoption outcomes.

Fourth, early research largely celebrated platform disruption, but more recent literature points to risks of market concentration, abuse of market power, data surveillance and deteriorating labour conditions (Human RW, 2025), (Jiang et al. 2024, p. 319). Winner-takes-all dynamics can create dominant "gatekeeper" platforms, while gig-economy models raise concerns about precarious work and algorithmic control. SME dependence on large platforms creates power asymmetries and exposure to unilateral changes in fees or algorithms.

Fifth, platform-related risks have encouraged regulatory responses such as the EU's Digital Markets Act and Digital Services Act, and renewed interest in competition policy, data protection and labour regulation (Heiiimburg et al. 2023, p. 75). These frameworks may alter platform business models and ecosystem dynamics. In emerging markets, regulatory frameworks are still evolving, raising uncertainty for firms.

Finally, while consumers can be engaged in value co-creation via feedback, communities and customisation, participation is often narrow and context-dependent (Verleye, 2013). Many customers are unwilling or unable to engage deeply in innovation processes, and firms may lack the capacity to manage co-creation initiatives. Advanced technologies such as AI, blockchain, IoT and 5G are frequently portrayed as the future of platform evolution, but their implementation faces barriers related to cost, expertise, ethical and legal concerns, and organisational readiness (Trabucchi et al. 2020, p. 563). In practice, many firms—particularly SMEs—remain in early stages, using relatively simple platform functionalities.

This study builds on these strands of literature and responds directly to gaps identified in earlier work by focusing on a new country context, a traditional sector, organizational differences and negative as well as positive outcomes of DTP adoption.

THE METHODS

Given the limited prior research on platform adoption in Azerbaijan, an exploratory mixed-methods design was chosen. Quantitative data were collected through a structured survey of stationery SMEs, complemented by qualitative interviews to capture contextual detail and perceptions not easily quantified.

The empirical setting is the Azerbaijani stationery industry, including firms selling office stationery, paper products and school supplies. The population consists mainly of SMEs. Using industry association lists and business directories, a purposive sample of 50 firms was compiled, ensuring diversity in firm size and role in the value chain. The final sample included 18 micro firms (<10 employees), 18 small firms (10–49 employees) and 14 medium firms (50–249 employees). Around 60% of firms were based in Baku, with the remainder in other cities and regions. The median firm age was 8 years, and data were collected in late 2024.

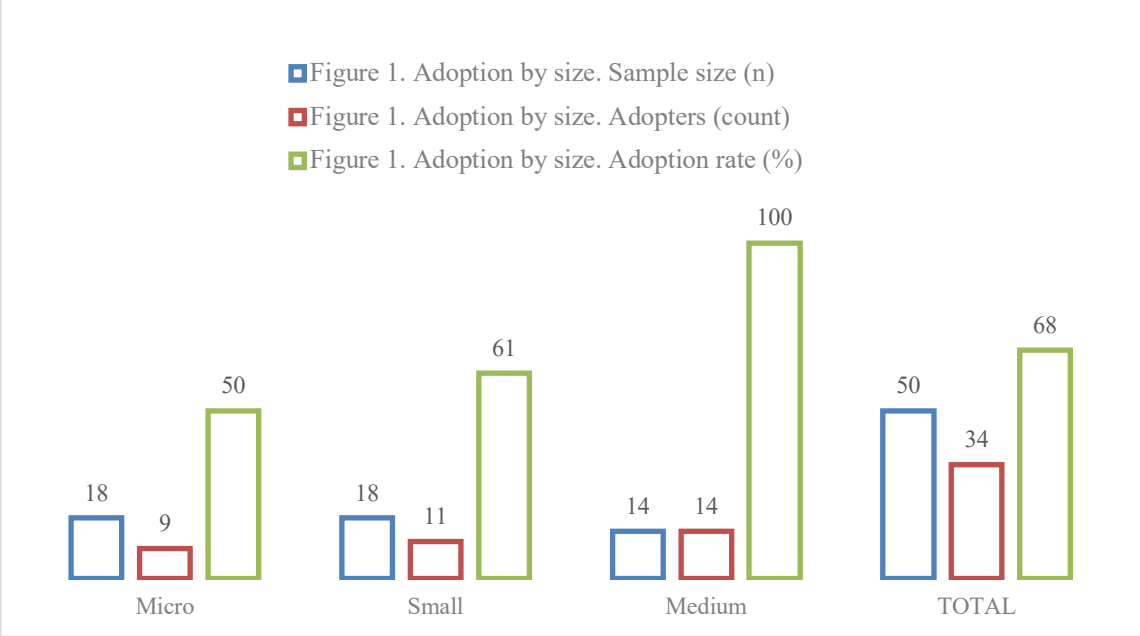

Figure 1. Adoption by size.

The questionnaire, partly inspired by Bartczak's survey, comprised several blocks. Platform adoption and usage like types of platforms used, business functions supported, duration and intensity of use; impacts on business model and performance like innovation, market reach, competitiveness, operational efficiency; success factors and barriers like leadership support, skills and training, infrastructure, financial resources, regulatory environment, partner ecosystem; consumer involvement and co-creation, advanced technologies like use and perceived obstacles for data analytics; and overall satisfaction and future intentions regarding platform use.

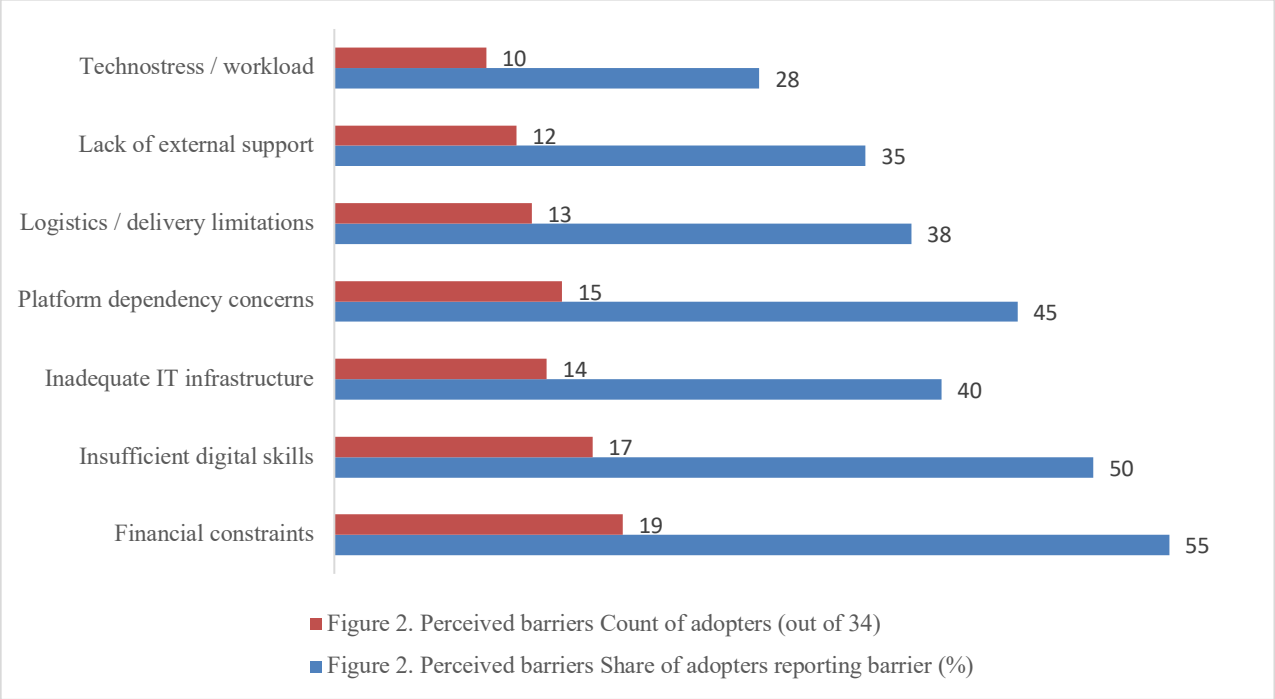

Figure 2. Perceived barriers.

Semi-structured interviews were conducted with managers from firms of different sizes and profiles. The guide covered the history of platform adoption decisions, implementation processes, challenges, perceived benefits and risks, and expectations regarding regulation and future developments. Interviews were recorded, transcribed and anonymised. Survey data were analysed using descriptive statistics and simple correlations, while interview transcripts were coded thematically and used to contextualise quantitative results.

Ten semi-structured interviews followed a purposive sampling strategy to capture variation by firm size, platform role and geography. Initial participants were identified via industry associations and professional networks. Participation was voluntary and based on informed consent. Interviews lasted approximately 45–60 minutes and were conducted in Azerbaijani. The guide covered organizational practices and capabilities, sectoral dynamics and competition, and regulatory implications, with open-ended prompts to elicit examples. With permission, all interviews were audio-recorded and transcribed verbatim. Personal identifiers were removed and transcripts were stored securely. Two researchers independently conducted an initial round of open coding on all transcripts, working inductively from the data and guided by the research questions. A shared codebook was iteratively refined and discrepancies were resolved by discussion to reach consensus. Codes were grouped into higher-order categories and synthesised into themes following the phases of thematic analysis. NVivo was used for data organisation. Interpretation remained manual and reflective.

THE RESULTS

Platform adoption patterns. The survey suggests that 68% of the sample (34 firms) used at least one digital platform in their business operations, while 32% (16 firms) were non-adopters. Adoption is strongly related to firm size. All medium firms used platforms, compared with about half of micro firms. Among adopters, e-commerce marketplaces were the most common platform type. Half of all firms sold products on online marketplaces, often local platforms, with a minority using international platforms such as Amazon. Social media platforms were used for marketing and informal sales by around 60% of firms. B2B procurement platforms and payment platforms were less prevalent. Only a small minority used platforms for open innovation or formal collaboration. Non-adopters cited lack of knowledge or skills, satisfaction with existing offline business, cost concerns and low local demand for online sales as main reasons. Micro enterprises in smaller towns frequently linked non-adoption to weak internet connectivity and low online customer presence.

Impacts on performance and innovation. Most adopting firms reported positive effects on performance. Around four-fifths agreed that platforms had improved their competitiveness, and more than half reported increased sales after adoption. Many firms reached new customer segments and geographic markets, including selling from regions to Baku

and abroad. Innovation-related benefits were more modest but still visible. Approximately 40% of adopters introduced at least one new product informed by platform-based insights, such as observed search patterns. Customer feedback via platforms was widely considered useful for incremental improvements. Three-quarters of adopters agreed that such feedback contributed to product. These findings broadly confirm earlier research on the positive link between DTP adoption, market reach and innovation capability, but also reflect the specific opportunities in a traditional sector where even basic e-commerce can constitute a major strategic innovation.

Success factors and barriers. The data support the critical success factors identified in previous studies, while illustrating their uneven availability among SMEs. The vast majority of adopters perceived strong top-management backing for digital initiatives. Firms where the owner personally championed platform projects typically reported smoother implementation and stronger results. In contrast, firms without active leadership involvement saw digital projects never move beyond pilot stages. Only about half of adopters felt their employees had sufficient digital skills at the outset. Many firms had to invest in ad hoc training and learning-by-doing, for example in product photography, online catalogue management and responding to customers. Skill gaps were particularly pronounced in micro and small firms. Around 60% of firms considered their IT infrastructure adequate for platform use. The remainder cited unstable internet and outdated equipment, especially outside Baku. Financial constraints also mattered. SMEs frequently relied on low-cost solutions and hesitated to invest in more advanced integrations. None of the surveyed firms reported using government support schemes specifically targeting SME digitalisation. Interviewees expressed interest in training and advisory programmes but saw limited practical support. Successful adopters combined committed leadership, at least a minimal level of digital skills, basic infrastructure and a willingness to experiment. Many others struggled to assemble this bundle of capabilities.

Differences by firm size and organization. Firm size significantly shaped adoption patterns and outcomes. Medium-sized firms not only had higher adoption rates but also tended to use multiple platforms and more sophisticated functionalities. They reported higher average sales increases and were more likely to assign dedicated staff to digital activities. Micro firms faced greater challenges. Multi-tasking employees, limited budgets and resistance to change led some to abandon online channels after initial trials. Even when adoption occurred, usage was often limited to a single social media account with basic functionality. Organizational culture and leadership mindset emerged as important cross-cutting factors. Firms with a more innovative, open culture and younger or more digitally oriented leadership adapted more easily, regardless of formal size.

Context-specific challenges and risks. Several challenges reflected the specific context of Azerbaijan and the stationery sector. Customer behaviour remained partly conservative. Many consumers preferred to see and touch stationery products before buying, especially outside major cities. Logistics and delivery infrastructure limited the scale of online sales, as courier networks and delivery options outside Baku were relatively weak and delivery costs could be high relative to the low value of individual items. The local platform ecosystem was relatively thin. SMEs mostly acted as users of existing platforms. Few examples of local platform creation were found. While no specific platform regulations constrained SMEs at the time of research, firms expressed uncertainty about future regulatory developments, particularly with respect to taxation and data protection.

The study also highlights negative aspects and risks. Despite theoretical emphasis on consumer co-creation, only a small minority of firms engaged in structured innovation collaboration with customers. Most simply monitored feedback and occasionally adjusted products. Many SMEs expressed concern about dependence on third-party platforms, particularly dominant marketplaces. Changes in commission rates, ranking algorithms or platform policies directly affected their sales and margins. Hidden costs included not only fees and marketing spend but also the labour required to manage online channels and the technostress associated with constant online communication.

THE DISCUSSION

The results reveal uneven DTP adoption across firm sizes and sectors, with medium-sized firms using more sophisticated functionality. This aligns with prior work that links platform value capture to internal capabilities and governance, which are often scarcer in micro firms. Sectoral differences reflect demand readiness and regulation. Retail, transportation and hospitality show faster disruption, while regulated domains change more incrementally. Policy responses should therefore be sector-specific. Societal implications—new entrepreneurial opportunities alongside concerns about market concentration, data governance and gig-work conditions—mirror global debates. Clear competition and consumer rules, data protection guidance and digital-skills programmes are needed so benefits are widely shared. Managerially, platform adoption is a strategic change process that requires investment in skills, onboarding and quality control for partners, and channel diversification to reduce single-platform dependency.

CONCLUSIONS

This study analysed how digital technology platforms influence business model innovation in Azerbaijani stationery SMEs, addressing gaps in existing research concerning context, firm size and negative impacts. Using a mixed-methods design, it documented both the benefits and the challenges of platform adoption in a traditional sector and an emerging economy.

The findings confirm that DTPs can enhance competitiveness, expand market reach and support modest innovation even where digitalisation started late. Leadership commitment, employee skills, basic infrastructure and resources emerge as key enablers of successful adoption. At the same time, many SMEs face serious constraints and are unable to realise the idealised scenarios often portrayed in the literature.

By focusing on firm size differences, sectoral and geographic context, and negative effects such as platform dependency, technostress and limited co-creation, the article contributes to a more balanced understanding of platform business models. It thus both extends and qualifies earlier work.

Practically, SME managers should treat platform adoption as a strategic change process, invest in foundational digital capabilities, diversify channels to avoid over-dependence on single platforms and set realistic expectations about customer involvement. Policymakers in Azerbaijan and similar contexts should design integrated SME digitalisation programmes that combine infrastructure investment, training, advisory support and clear regulatory frameworks in areas such as competition, data protection and e-commerce. Platform operators targeting SMEs can improve outcomes by simplifying onboarding, providing local-language support and offering transparent, SME-friendly fee structures.

The study is exploratory and limited to one country and sector, with a relatively small sample and cross-sectional design. Future research could extend the analysis to other industries and countries, use longitudinal designs to track long-term business model evolution, and explore in more detail the interaction between platform regulation, platform strategy and SME outcomes, especially as advanced technologies become more widely adopted.

REFERENCES

Bartczak, K. (2021). The impact of digital technology platforms on business models in the context of consumer-driven processes. European Research Studies Journal, 24(2B), 743–761.

Bartczak, K. (2024). Business models and digital technology platforms: Implementation and complexities for digital business. Routledge.

Constantinides, P., Henfridsson, O., & Parker, G. G. (2018). Platforms and infrastructures in the digital age. Information Systems Research, 29(2), 381–400.

Han, B., Li, M., Diao, Y., & Han, D. (2024). Assessing the effect of digital platforms on innovation quality: Mechanism identification and threshold characteristics. Humanities and Social Sciences Communications, 11(1), Article 951.

Heimburg, V., & Wiesche, M. (2023). Digital platform regulation: Opportunities for information systems research. Internet Research, 33(7), 72–85.

Human Rights Watch. (2025). The gig trap: Algorithmic, wage and labor exploitation in platform work in the US. Human Rights Watch.

Jiang, Q., Chen, Y., Han, C., & Lin, E. (2024). Platform economy in the digital age: A literature review of digital platform and monopoly. Advances in Economics, Management and Political Sciences, 92(1), 316–322.

Marzi, G., Marrucci, A., Vianelli, D., & Ciappei, C. (2023). B2B digital platform adoption by SMEs and large firms: Pathways and pitfalls. Industrial Marketing Management, 114, 80–93.

OECD. (2021). SMEs going digital: Policy challenges and recommendations. OECD.

OECD. (2022). Promoting enterprise digitalisation in Azerbaijan. OECD Eastern Partnership Report.

Trabucchi, D., Buganza, T., & Verganti, R. (2020). Disrupting the disruptors or enhancing them? How blockchain reshapes two-sided platforms. Journal of Product Innovation Management, 37(4), 552–572.

Veile, J. W., Schmidt, M.-C., Voigt, K.-I., & Müller, J. M. (2022). Toward a new era of cooperation: How industrial digital platforms transform business models in Industry 4.0. Journal of Business Research, 143, 387–405.

Verleye, K. (2013). Ready for a co-creative economy? Implications of customer engagement in value creation for high-contact and technology-based service interfaces. Ghent University Press.

