

Business Administration Education and Skills Formation for Competitiveness in the Digital Economy

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Abstract. *The increasing digitalization of economic activity has led to the emergence of demand for advanced managerial skills, which keep organizations competitive in our dynamic and technology-led business environment. With evolving business models, the industries of today expect higher education institutions to help create and shape talent specifically in accordance with its needs, aligned and catering better towards the demands of the digital economy. This paper attempts to integrate a research agenda on digital skills with the field's literature, focusing specifically on how business administration education may contribute to long-term competitiveness in this area.*

This paper investigates the extent to which business administration education provides graduates with integrative managerial capabilities that are valuable in digitally intensive contexts so as to enhance their competitiveness. It uses a conceptual research design that builds on an integrative literature review and analytic synthesis of contributions across disciplines, such as digital transformation, human capital development, and educational crucial fields. This analysis is framed using the triple-helix framework, which guides exploration of interactions between universities and industry public policy.

The findings reveal three major insights. To start, competencies for competing in the digital economy reach far beyond technical abilities to include analytical reasoning skills, strategic thinking ability and adaptive capacity. Second, business administration education serves as an institutional mediator between technological change and organizational value. Third, in order for skill formation to work effectively, governance needs to be collective across educational, economic and regulatory systems.

This paper contributes to the bridge between education, digital skills and competitiveness through proposing a theoretical framework and provides implications for curriculum design, institutional strategic choices as well as policy making.

Keywords: digital economy; business administration education; digital skills; competitiveness; business excellence.

Introduction

Digitalisation has transformed the fundamental rules by which businesses collaborate, plan their strategies and the job market. In this sense, business administration education is critical because it bridges new technological infrastructures and development of managerial and analytical skills for more competitiveness. European higher education systems are under significant pressure to reconcile historic academic traditions with rapidly evolving demands for digital competencies, adaptability and ethical accountability. This is not just curricular tension but epistemological, raising questions of what counts as appropriate knowledge in business education and how it is to be cultivated.

Recent academic discussions tend to converge on the idea that competitiveness in the digital economy depends less on isolated technical skills and more on the integration of analytical reasoning, digital literacy, and contextual judgement. Nonetheless, despite extensive discourse on digital transformation, discrepancies persist among policy discussions, institutional reform, and educational practices. It has been widely argued that universities struggle to keep pace with evolving business requirements, while employers frequently report a shortage of graduates capable of operating in complex, data-driven decision-making environments (Laitsou et al., 2020; Sánchez-Bayón et al., 2020).

While existing studies underscore the importance of digital skills and technological adoption, they often treat education, labour markets and competitiveness as loosely connected domains. Such phenomena may lead to a negligent approach towards the review of institutional and governance dynamics that sensibly contribute to the development of business administration education for sustainable competitiveness in a digital economy. There is a specific gap in the literature concerning a cohesive framework detailing how education systems, enterprises and policy-makers interact to transform development of skills into sustainable economic and organizational outcomes.

The research examines the role of business administration education in developing necessary competence to sustain competitive advantage under digital transformation and uncertainty. The research question of this study looks at how digital skills, analytical competencies and ethical judgement can be incorporated in higher education systems with coherence and according to business excellence standards. A second focuses on how relationships among universities, businesses and policymakers shape the effectiveness of educational change. Rather than advocate for particular solutions, the analysis notes that educational reform can't take place in isolation and is ongoing with other social and economic systems.

This gap appears to reflect a deeper structural misalignment rather than a simple adjustment problem. In response to this gap, the paper advances the following analytical propositions:

P1: Business administration education enhances competitiveness in the digital economy by fostering integrative managerial capabilities that combine digital literacy, strategic thinking, and adaptive decision-making.

P2: The effectiveness of digital skills formation depends on institutional coordination among universities, industry, and public policy actors.

P3: Business excellence in digitally intensive environments emerges from the alignment between educational curricula, organizational needs, and regulatory frameworks.

Literature review

In the context of this study, digital skills imply a mix of analytical, technological and cognitive competencies necessary for people to make sense of data, apply digital systems as well as put in place informed decisions within technology-enhanced environments. Competitiveness refers to the ability of firms and economies to generate good outcomes over time, including innovative activity, productive efficiency, and adaptability. Business excellence is the organisational outcome of a results oriented strategy, good governance and continuous learning in response to the changing environment.

Digital Economy and the Transformation of Education

Digitization of economy has transformed how we produce, how businesses are structured and what skills to build have called for a rethink of education systems. The digital economy is, according to Malecki and Moriset (2007), a new configuration of business activity driven by information technologies and networked production. From this perspective, education systems play a role not only as providers of workers but also as institutional actors shaping regional and organisational competitiveness.

Subsequent studies argue that digitalisation will radically reshape higher education. According to research conducted by Abdurashidova and Balbaa (2022) digital transformation moderates the traditional pedagogical frameworks, as it focuses on flexibility, lifelong learning, and technological competence. Khitskov et al. (2017) and Petcu, C. et al. (2025) also talk about systemic barriers to digital adaptation, saying that institutional inertia often slows down the pace of educational reform. These contributions converge on the perspective that digital transformation requires structural rather than peripheral modifications in educational design.

Human Capital, Digital Skills, and Competitiveness

Human capital theory provides a foundational lens for examining skills formation in the digital economy, yet recent scholarship extends this framework by incorporating qualitative dimensions of competence. Korneeva et al. (2019) stress that human capital evaluation must account for digital competencies and adaptive capacity, particularly in environments characterized by rapid technological change. Complementary analyses underscore the uneven distribution of digital skills and its implications for economic mobility and business competitiveness (Bergson-Shilcock, 2020; Mihaila. et al. 2025).

Empirical studies focusing on European contexts reveal persistent mismatches between educational outcomes and labor market needs. Laitou et al. (2020) demonstrate that digital competitiveness at the national level is closely linked to the effectiveness of education and training systems. Sánchez-Bayón et al. (2020) extend this argument by critiquing accreditation and governance structures that limit curricular innovation in business schools. Together, these works suggest that competitiveness depends not only on skills acquisition but also on institutional flexibility and governance arrangements.

Educational Models and the Triple-Helix Perspective

Recent literature increasingly emphasizes collaborative educational models that encompass academic, industrial, and policy contributors. Nguyen (2024) & Costache (2025) find that an audit of collaboration of universities and businesses in the digital economy accentuates human resource development. Bilyska et al. (2020) and Evseeva et al. (2019) highlight the importance of experiential and digital learning settings in improving professional competitiveness.

The triple-helix model offers an overarching framework to understand these dynamics since it frames innovation and knowledge production as the outcome of interaction among different sectors, particularly universities, businesses, and policymakers. Though widely known and employed for innovation research, its significance within the business education sector lies in clarifying co-creative processes and shared responsibility over developing actual skills. Despite the analytical potential evident in literature, the object of analysis - triple-helix models, is rarely applied systematically to business administration education and only reflects a sparse research stream analysing how institutional collaboration affects competitiveness orientated curricula.

The literature reviewed has important insights about digitalisation, upskilling and competitiveness; but remains largely fractured by disciplinary boundaries. There aren't that many studies that actually connect the dots between education, industry demand and policy frameworks. Consequently, the mechanisms through which business administration education transforms digital competences into competitive advantage are little explored theoretically. This shortcoming underscores the need for a conceptual framework that can include institutional players and explain their roles in skill development of labour for the digital economy.

Methodology

When talking about research design, this study is characterized as a conceptual rather than an empirical one since the focus of our research efforts is theory development vice hypothesis testing. The methodological framework is based on an integrative review and analytical synthesis of relevant literature from business education, digital transformation, and competitiveness research. This approach is appropriate when the objective is to illuminate concepts, identify relationships, and construct explanatory frameworks rather than statistically calibrating variables.

A structured approach was adopted for literature selection. The relevant sources were identified from academic databases such as Scopus, Web of Science and Google Scholar with keywords including “digital skills”, “business administration education”, “competitiveness” and “digital economy”. The articles selected were from peer-reviewed journals and conferences, as well as policy reports published between 2007 and 2025. To this end, we screened some 40 theoretical and empirical contributions to yield 18 core studies for in-depth analysis based on their relevance to the research objectives.

The analysis was conducted in three phases. This paper first conducts a systematic review of relevant literature on digital skills, business administration education, and competitiveness to identify key themes and conceptual tensions. The second part uses a triple-helix framework to examine how universities, businesses, and policymakers collaborate to promote new skills learning. Third, the conclusions from this synthesis are utilized to test the theoretical concepts introduced in the Introduction and formulate a clear conceptual model.

Thematic synthesis was used to identify themes and relationships between these themes across the literature. Themes like digital competencies, institutional coordination, and governance mechanisms underwent iterative revision. Comparative analysis across studies revealed conceptual tensions, including the divide between technical skills and strategic capabilities.

A study's validity fundamentally resides in the internal consistency of its analytics and coherence of its theorization. Rather than claim that its findings generalize to all registered cases, the paper attempts to clarify and make practical use of its ideas by combining disparate elements of the literature into an integrated interpretive framework. This method follows previous conceptual research findings both in management and also educational studies.

Results and discussions

The analysis responds to the two research questions articulated in the Introduction by weaving together the literature around conceptual dimensions. As for the first question, findings show that digital competitiveness is a function of not just technical skills but rather the condition and way analytical, strategic, and adaptive expertise are embedded in the business education system. As for the second question, we found that for educational transformation to succeed, Universities need to engage with both industry and policymakers in a network orchestrated potentially through a triple-helix framework.

The results are discussed against the analytical propositions made previously. According to the analysis, competitiveness in the digital economy is dependent on integrative managerial capabilities (P1) rather than isolated technical skills (P2). Evidence that is consistent with proposition P2 concerns the necessity of institutional coordination among educational providers, firms and policymakers. So, there are some points in which proposition P3 finds a reflection (indicating the alignment of curriculum with organizational strategy & governance structures as essential conditions for business excellence).

The study reveals that the competitiveness of the digital economy correlates highly with business administration education frameworks' reconciliation. Digital skills are essential, but insufficient for making a business great. The literature strongly points to analytical reasoning and ethical judgement as enabling competencies that help graduates-go-beyond technical know-how to strategic action (Korneeva et al., 2019; Bergson-Shilcock, 2020).

The other lesson is the importance of experiential and collaborative learning. Studies of university-industry collaboration suggest that curricula are enhanced by the inclusion of real-world problem solving and industry engagement (Nguyen, 2024; Bilynska et al., 2020). From a triple-helix viewpoint, such arrangements transfer the responsibility for skills development that bridge the gap between what schools teach and employers demand.

It seems that governance structures are critical at the institutional level, helping or getting in the way. Accreditation systems and rigid curricular standards can inhibit, instead of favours innovation (Sánchez-Bayón et al., 2020) Conversely, policy frameworks that enable digital learning infrastructures and foster collaboration between organisations contribute to adaptive capacity and long-term resilience (Kholiavko et al., 2021).

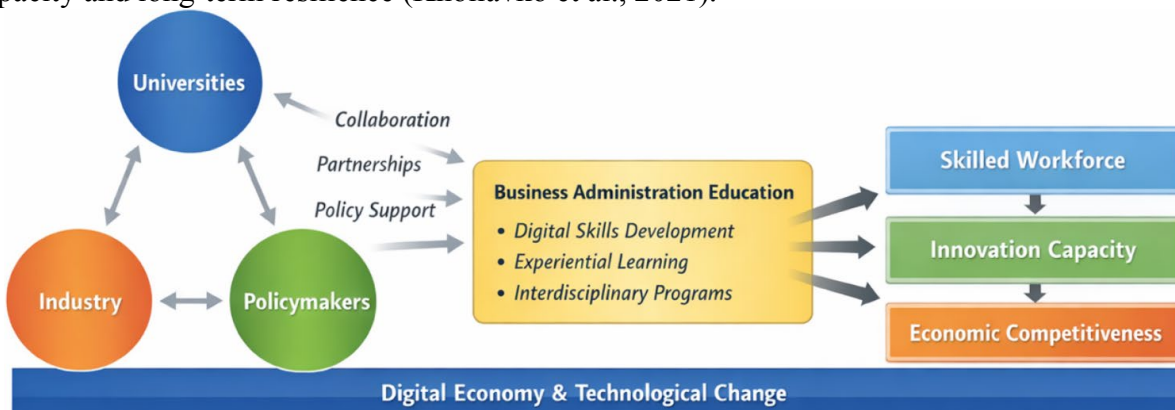


Figure 1. Business administration education and skills formation for competitiveness in the digital economy

Source: Authors' own conceptual contribution.

These findings enhance existing theories by underscoring that the competitiveness of business education is not a linear function of the intensity of digitalisation. It does not, however, show how skills formation, institutional collaboration, and governance mechanisms are all working together. The triple-helix model functions not merely as a descriptive metaphor but as an analytical instrument for comprehending educational transformation within the digital economy.

Conclusion

This paper further contributes to the body of literature by establishing systems-oriented frameworks for understanding the role of business administration education in fostering competitiveness in a digital economy. Furthermore, the research integrates aspects related to educational, organisational and policy level that develops the existing body of knowledge from skills inventories towards holistic understanding of business excellence at institutional level during digitization transformations.

This contribution develops and contributes to the theoretical framework of business administration education as a strategic factor for competitiveness in the digital economy. Theoretically it links human capital theories with systems-oriented and triple-helix frameworks in terms of the simultaneous development of skills, institutions and economic structures. The findings show that business excellence is founded on an educational ecosystem capable of blending digital expertise with analytical/emotional and ethical skillsets.

The findings highlight the significance of flexibility in institutional structures and governance, as well as engagement with industry, from both policy and educational standpoints.” Universities, companies and government officials all order to step up in ensuring the curriculums are aligned with rapid digital changes without compromising academic excellence or moral integrity. This study is limited by its conceptual framework and reliance on secondary literature, which precludes direct empirical verification.

Subsequent research may conduct empirical investigations of particular national or institutional cases to evaluate the impact of triple-helix interactions on graduate outcomes and organisational performance. Longitudinal studies examining curriculum reform and labour market integration would enhance the understanding of the evolving relationship between business education and competitiveness in the digital economy.

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