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## Scoping review of impact of digital transformation on business processes

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### Abstract

Over the past decades, and in particular since COVID-19 pandemic, digital transformation has covered more and more areas in business and management. Digital transformation poses new challenges for scientists, especially when assessing the impact of digital transformation on business processes.

The scientific research is devoted to the analysis of existing approaches to measuring the effect of the implementation of digital transformation in the system of corporate governance in terms of compliance with the principles of sustainable development.

This article conducted research on scientific articles from 2019 to 2023 years to demonstrate the relevance of topics in the field of digital transformation of management and business processes.


The research method is based on a comprehensive search method using an iterative process, which is guided by the requirement to identify all relevant literature (published and unpublished) suitable to answer the main question: the impact of digital transformation on business processes.

The key criteria for the search were words and phrases: digital transformation, business processes, management, model, processes, as well as various categories by authors, number of articles and their citations.

The implementation strategy of modern digital technologies and initiatives should be based on a systematic approach to measurement, analysis, and improvement of the organization's business processes for sustainable development. The ways and directions of implementing digital business process tracements directly affect the effectiveness and success in general. The result suggests future opportunities in this widespread field and thereby highlights the most influential and unique research in the field.

**Keywords:** digital transformation, business processes, management, impact assessment, model, evolution.



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## Introduction

In the age of rapid technological advancement and global connectivity, digital transformation has emerged as a critical force reshaping the landscape of business and management. This transformative process, driven by the integration of digital technologies into every facet of business operations, has significant implications for how organizations function, compete, and succeed in an increasingly digital world. As businesses evolve to adapt to this digital era, understanding the multifaceted impact of digital transformation on business processes becomes paramount.

This article delves into the complex interplay between digital transformation and business processes, exploring how the integration of digital technologies is redefining the management paradigm. The focus is twofold: firstly, to assess the impact of digital transformation on various business processes, and secondly, to understand how management practices are adapting in response to these technological shifts.

The methodological backbone of this study, which is given in the next sections, is a comprehensive literature review, encompassing a wide range of scholarly works from 2019 to 2023. This period marks a significant phase in the evolution of digital transformation, further accelerated by global events such as the COVID-19 pandemic. The review process is guided by a series of key terms - 'digital transformation', 'business processes', 'management', 'impact assessment', 'model', and 'evolution'. Each of these terms represents a critical aspect of our inquiry into the ongoing changes in the business world.

Through this systematic exploration of existing literature helps to construct a nuanced model that captures the essence of digital transformation in the context of business processes and management. This model is intended not only to encapsulate the current state of digital transformation but also to provide insights into its future trajectory. By doing so, the article contributes to a deeper understanding of the ongoing digital evolution in the business sphere, offering valuable perspectives for both academics and practitioners in the field.

## Theoretical background

The implementation of a new digital-based business model requires a wide range of capabilities to be developed, starting with the influence on people's mindset and organizational culture and the ability to change [1].

According to the different sources the definition of digital transformation and business processes is presented in Table 1.

Table 1. Definitions of digital transformation and business processes.

Definition	Source
Digital transformation is the rewiring of an organization, with the goal of creating value by continuously deploying tech at scale.	[2]
Digital transformation is the process of using digital technologies to create new — or modify existing — business processes, culture, and customer experiences to meet changing business and market requirements. This reimagining of business in the digital age is digital transformation.	[3]
Digital transformation can refer to anything from IT modernization (for example, cloud computing), to digital optimization, to the invention of new digital business models. The term is widely used in public-sector organizations to refer to modest initiatives such as putting services online or legacy modernization. Thus, the term is more like “digitization” than “digital business transformation.”	[4]
A business process is a collection of linked tasks that find their end in the delivery of a service or product to a client. A business process has also been defined as a set of activities and tasks that, once completed, will accomplish an organizational goal.	[5]
Business processes is a comprehensive approach to implementation of the objectives of an organization. It concentrates on optimizing the ways business processes are run in organizations in order to increase effectiveness of operations within an organization.	[6]

### Methodology of research

The methodological framework was based on an iterative process of gathering and analyzing literature. The comprehensive search included databases such as Google Scholar, Web of Science, and academic journals, focusing on articles published between 2019 and 2023. The inclusion criteria were publications that discussed digital transformation within the context of business process management, with a particular focus on sustainability and corporate governance. To do this, we used the following methodology for the study of this systematic literature review Figure 1.



Figure 1. Research methodology for the present systematic literature review

Source: Adapted by author from Denyer and Tranfield (2009) [7].

## Research questions

To analyze the scientific publications in scope of articles we should formulate the questions which will allow us to cover and present the impact of digital transformation on business processes. The following research questions and expected research answers presented in Table 2.

Table 2. Research questions and expectations by research

Research question	Expectations by research
What are the main components and characteristics of digital transformation that affect business processes?	This question examines the key elements of digital transformation, such as the integration of the latest technologies, changing corporate culture, and their impact on various aspects of business processes.
How does digital transformation affect the efficiency and productivity of business processes?	This issue focuses on analyzing how the implementation of digital innovations affects business productivity, including cost reduction and efficiency gains.
What challenges and problems accompany the digital transformation of business processes?	An examination of the challenges organizations face during digital transformation, including resistance to change, data security issues and the need to retrain staff.
What impact does digital transformation have on customer engagement and customer experience?	Analysis of changes in customer interaction strategies and ways to increase customer satisfaction through digital channels. How does digital transformation affect strategic planning and decision-making in business?
How does digital transformation affect strategic planning and decision-making in business?	Research on how digitalization is changing decision-making processes at the management level, including through the use of big data and analytics.
What best practices and strategies can be identified for successful digital transformation of business processes?	Study of successful cases and strategies that companies use to effectively implement digital change.
What impact does digital transformation have on sustainable development and corporate social responsibility?	Analysis of how digitalization facilitates or complicates the achievement of sustainable development goals and the implementation of corporate social responsibility principles.

### Criteria selection

The following strategies are used to effectively search scientific databases with the keywords and phrases "digital transformation", "business processes", "management". Advanced search and keywords: "digital transformation" AND/OR "business processes" AND/OR "management" are used, as well as additional terms: "Impact" AND "Digital transformation" AND "Business processes" and filtering by date from 2019 to 2023 years, in English. To assess the influence of articles, attention was paid to the number of publications.

### Data extraction

The result of data extraction according to the search criteria presented in Table 3 and 4.

Table 3. Count of articles by research criteria by year

Criteria	2019	2020	2021	2022	2023
Digital transformation	29000	41300	51900	52700	53100
Business processes	12800	15600	19000	20900	14700
Digital transformation AND Business processes	4200	6340	9000	11200	8800
Digital transformation OR Business processes	17200	17500	16900	17000	16900
Digital transformation AND Business processes AND management	4020	6060	8630	10800	9390
Digital transformation OR Business processes OR Management	1320000	1260000	773000	460000	287000
Impact AND Digital transformation AND Business processes	3260	5140	7370	9360	8370

The occurrence of papers per publication year and criteria for searching presented in Figure 2.

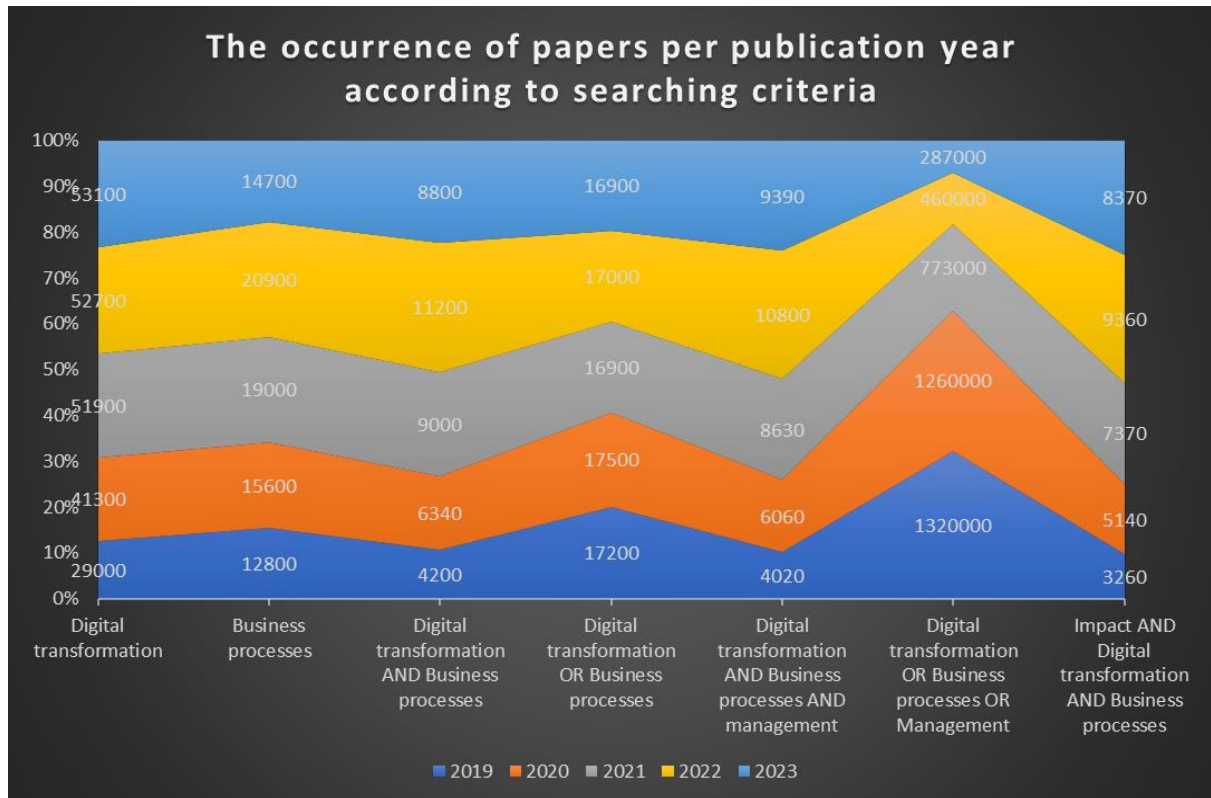


Figure 2. The occurrence of papers per publication year by searching criteria

Table 4 First authors by criteria “Impact” and “Digital transformation” and “Business processes” by year

Author	Publication	Year
Alexander Gleiss	Technology Impact Types for Digital Transformation	2019
Abayomi Baiyerea	Digital transformation and the new logics of business process management	2020
Mathias Kirchmer	Digital Transformation of Business Process Governance	2021
Ntalia Struk	Impact analysis of digital transformation on the national business structures development	2022
Bogdan Ubiparipović	Key activities of digital business transformation process	2023

## Synthesis and analysis

Digital transformation represents the integration of digital technology into all aspects of business, fundamentally altering how organizations operate and deliver value to customers. It's a comprehensive shift that transcends traditional roles and processes, creating new business models and opportunities in the digital age.

According to the research we see there was a growing academic interest in studying the impacts and implications of digital transformation, leading to a surge in scholarly articles and research in this area when we use the search criteria like “Digital transformation OR Business processes OR Management” in 2019. The reason for that is that digital transformation has gained substantial momentum across various industries. Businesses increasingly recognized the need to integrate digital technologies into their operations to remain competitive. At the same time we can see how popular within scientific research the criteria “Impact AND Digital transformation AND Business processes” will be in 2023 and year can be attributed to several key factors:

### *Ongoing evolution and maturation of digital transformation:*

By 2023, technologies such as AI, machine learning, IoT, and cloud computing have advanced significantly, offering new capabilities for transforming business processes. There's a deeper integration of digital technologies in business, making the study of their impact more relevant and necessary.

### *Post-Pandemic business landscape:*

The COVID-19 pandemic accelerated digital transformation as businesses adapted to remote work, e-commerce, and digital customer interactions.

### *Broader industry application*

Digital transformation has become relevant across various sectors, leading to a diversity of research focusing on its impact in different contexts.

### *Sustainable development and corporate responsibility:*

Research increasingly focuses on how digital transformation aligns with sustainable business practices and corporate social responsibility. There's also interest in understanding how digital transformation helps businesses meet regulatory requirements and manage risks.

The main aims of research problems by authors from 2019 till 2023 demonstrates the following:

1. Digital transformation is by itself a fragmented area, due to different perspectives encountered in the literature. The research problem addressed in this paper is a general lack of consent on the content of digital transformation and the lack of a comprehensive framework for implementing digital transformation initiatives (Bogdan Ubiparipović). [8]
2. The purpose of the scientific article is to analyze the impact of digital transformations on business operations in order to substantiate the actualization of digital transformation of business structures based on the further development of new



business models, digital platforms, and services that make it possible to increase the level of efficiency of national business structures (Ntalia Struk). [9]

3. Many organizations have started digital transformation initiatives. New digital tools are available with increasing regularity – and many of them have a major impact on business processes. However, only a small number of organizations have their business processes sufficiently under control to realize the full business potential of new digital technologies (Mathias Kirchmer). [10]

4. Business process management (BPM) research emphasizes three important logics – modeling (process), infrastructural alignment (infrastructure) and procedural actor (agency) logics. These logics capture the dominant ways of thinking in BPM, reflected in its assumptions, practices and values. While the three logics have proven useful in prior contexts, we argue that the applicability of these underlying assumptions in theorizing BPM needs to be re-examined in the context of digital transformation (Abayomi Baiyerea). [11]

5. Digital transformation is based on direct and indirect effects of the application of digital technologies and techniques on organizational and economic conditions on the one hand and new products and services on the other. Its impact can be distinguished in three dimensions: value creation model, value proposition model and customer interaction model (Alexander Gleiss). [12]

## Reporting result

The scoping review of impact of digital transformation on business processes encompassed a comprehensive analysis of scholarly articles, case studies, and empirical research conducted between 2019 and 2023. There was an upward trend in publications, especially post-2019 till for now, indicating growing academic and practical interest. Key papers that were received by search criteria demonstrates the huge interest by scientists in digital transformation of business processes.

## Conclusion

The area of digital transformation's impact on business processes is a focal point of academic interest, yet it continues to demand a more comprehensive conceptualization, a deeper understanding of its prerequisites, and a strategic approach with a long-term outlook. This study reveals that there is a substantial corpus of scholarly work endeavoring to probe this subject. Consequently, our research adds valuable insights to the existing body of knowledge, aiding in the further exploration of how digital transformation influences business processes, which is instrumental for future academic endeavors in this field.

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