Școala Națională de Studii Politice și Administrative
Școala Doctorală Multidisciplinară
Domeniul de Doctorat Management

TEZĂ DE DOCTORAT

Impactul fenomenului de digitalizare asupra deciziilor de management în perioada pandemiei de COVID-19 în România

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IMPACTUL FENOMENULUI DE DIGITALIZARE ASUPRA DECIZIILOR DE MANAGEMENT ÎN PERIOADA PANDEMIEI DE COVID-19 ÎN ROMÂNIA

-rezumat-

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Research Context

The COVID-19 pandemic generated profound and rapid transformations in the functioning of organizations in Romania and worldwide, requiring major adaptations of management processes and accelerating digital transformation. Starting in 2020, mobility restrictions and social distancing led to a massive shift toward remote work, the urgent reorganization of workflows, and the adoption of digital solutions to ensure operational continuity. In this context, digitalization became not only a tool for efficiency but a condition for organizational survival and competitiveness.

Romania's digitalization level, as measured by the European DESI indicators, was below the EU average before the pandemic, which amplified the difficulties of the transition. Organizations were compelled to adopt technological solutions in a short timeframe, to develop digital skills, and to redesign processes to respond to market demands and challenges generated by the crisis. At the same time, the pandemic highlighted the significant gap between organizations that already had digital infrastructure in place and those forced to implement it urgently.

The dissertation investigates the impact of digitalization on managerial decisions during the pandemic, with emphasis on the mechanisms through which technology adoption, employee skills, contingency planning, and process innovation contributed to organizational agility.

Purpose and Research Objectives

The overall purpose of the dissertation is to analyze how digitalization influenced managerial decision-making in Romanian organizations during the COVID-19 pandemic, by identifying the key determinants and their interrelationships.

The specific objectives are:

1. To determine the degree of digital technology adoption in Romanian organizations between 2020 and 2022.
2. To analyze the role of employees' digital skills in supporting decision-making.
3. To assess the influence of contingency plans on organizational responses to crisis situations.
4. To examine how process innovation contributed to organizational agility.
5. To validate a conceptual model explaining the relationships between digital adoption, digital skills, contingency planning, process innovation, and organizational agility.

The research questions addressed whether and to what extent digital adoption and employees' skills influence organizational agility, the mediating role of process innovation, and the contribution of contingency plans to other factors.

Theoretical Framework and Conceptual Model

The theoretical framework was developed based on literature on digital transformation, crisis management, and organizational agility. Five core constructs were selected: digital adoption (DA), employees' digital skills (EDS), existence of contingency plans (ECP), process innovation (PI), and organizational agility (OA).

The conceptual model posits that DA and EDS positively influence PI, which in turn determines OA. Additionally, ECP supports both DA and PI, thereby indirectly contributing to OA. Thus, organizational agility is the result of a mediation mechanism, where technology adoption and employee skills become effective only through integration into innovative processes, facilitated by contingency planning.

Research Methodology

The research followed a mixed-methods design, structured in two complementary stages: qualitative and quantitative.

Qualitative Stage

A total of 11 semi-structured interviews were conducted with managers from various industries (IT, telecommunications, education, retail, financial services). The aim was exploratory, capturing managers' experiences and perceptions regarding the impact of digitalization during the pandemic. Thematic analysis revealed four major themes: challenges related to limited digital skills, differences between digitally prepared and unprepared companies, the importance of continuity planning, and the role of process innovation in leveraging technology.

Quantitative Stage

The quantitative stage consisted of an online survey with 119 respondents involved in managerial decision-making. Respondents came from diverse sectors, with significant shares from financial-banking, IT, and telecommunications. The average professional experience was approximately 16 years, which strengthens the reliability of responses.

The questionnaire included Likert-scale items (1–5) to measure EDS, ECP, PI, and OA, while DA was measured through binary items indicating the implementation of specific digital actions (cloud migration, digital HR processes, digital channels, customer platforms).

Data analysis employed **PLS-SEM (Partial Least Squares – Structural Equation Modeling)** using SmartPLS 4. The choice of method was based on the medium sample size, the mix of Likert and binary variables, and the predictive-explanatory orientation of the study.

Research Results

Measurement Model Validation

Reliability indicators recorded high values (Cronbach's α, ρA, and ρC between 0.84 and 0.93). AVE values exceeded 0.50 for all constructs, confirming convergent validity. Discriminant validity was confirmed using both HTMT and Fornell-Larcker criteria.

Structural Model Analysis

The structural model tested seven hypotheses. Five were confirmed, and two were rejected. Results indicate that:

- DA positively influences PI ($\beta=0.322$, $p=0.030$).
- EDS positively influences PI ($\beta=0.330$, $p<0.001$).
- PI positively influences OA ($\beta=0.588$, $p<0.001$).
- ECP positively influences DA ($\beta=0.506$, $p<0.001$).
- ECP positively influences PI ($\beta=0.205$, $p=0.008$).

The direct effects DA → OA and EDS → OA were not significant.

The model's explanatory power is moderate to high: R^2 for OA = 0.567, R^2 for PI = 0.528, and R^2 for DA = 0.256. These values indicate that a substantial share of the variance in organizational agility is explained by the included factors.

Interpretation of Results

Findings confirm the central role of process innovation as mediator between technology adoption and digital skills on the one hand, and organizational agility on the other. Thus, technology adoption or the existence of digital skills alone do not guarantee agility; reengineering and adapting processes are necessary for results to materialize.

ECP acts as a catalyst, enabling both DA and PI, which confirms the importance of preparedness for crisis situations. The absence of contingency plans and digital skills represented major vulnerabilities, particularly for SMEs and public institutions.

Theoretical Contributions

The research makes three main contributions to the literature:

1. It proposes and validates an original conceptual model on the impact of digitalization on managerial decision-making during crisis situations, tested in the Romanian context.
2. It highlights the mediating role of process innovation in transforming digital adoption and digital skills into organizational agility.
3. It demonstrates the importance of contingency planning as a governance mechanism that stimulates digital adoption and process innovation.

Practical Contributions

From a managerial perspective, the results indicate several directions for action:

- Digital technology adoption must be correlated with redesigning work processes in order to generate real effects on agility.
- Investments in employees' digital skills must be linked with projects aimed at process innovation.
- Contingency planning must be treated as an essential organizational tool, not merely as a formal requirement.
- SMEs should prioritize building basic digital infrastructure, while large companies should integrate advanced technologies, strengthen cybersecurity, and foster a culture of learning and innovation.

Limitations and Future Research

The sample size of 119 respondents limits the extent of generalization, although it is suitable for PLS-SEM. The reliance on self-reported data may introduce perception bias. Furthermore, DA mainly captured the presence of digital initiatives, not their maturity or integration level.

Future research directions include expanding the sample, conducting cross-sector and cross-country comparisons, and undertaking longitudinal studies to track the persistence of digital transformations beyond the pandemic.

Conclusions

The dissertation demonstrates that digitalization significantly influenced managerial decisions during the COVID-19 pandemic in Romania, but its impact depended on the integration of technologies into innovative work processes and on the existence of contingency plans. Organizational agility resulted from the combination of technology adoption, employee skills, and process innovation, within a governance framework prepared for crisis.

Digitalization is no longer optional but a condition for survival and competitiveness. Managers must embrace agile leadership, invest in digital skills, and prepare their organizations for future uncertainty. The results have theoretical value, by contributing to the academic literature, and practical value, by offering applicable solutions for both business and public sector organizations in Romania.