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DIGITAL TRANSFORMATION IN THE FMCG'S SALES AND DISTRIBUTION MANAGEMENT SYSTEM: ANALYSIS OF PERFORMANCE, ORGANIZATIONAL DYNAMICS, AND DIGITAL GOVERNANCE (A CASE STUDY OF JB DISTRIBUTOR IN WEST NUSA TENGGARA)

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ABSTRACT

Digital transformation in distribution systems has become a strategic issue in the Fast Moving Consumer Goods (FMCG) industry, particularly in regions with limited infrastructure such as Nusa Tenggara Barat, Indonesia. This study aims to analyze the impact of Enterprise Resource Planning (ERP) and Sales Force Automation (SFA) implementation on distribution performance, as well as to examine the implications of digital governance in the context of regional distributors. A qualitative approach with an exploratory case study design was employed at CV. JB Distributor NTB. Data were collected through in-depth interviews with 12 informants, field observations, and document analysis, and analyzed using thematic analysis and before-after comparison. The findings indicate that digital transformation improves operational efficiency, data accuracy, and coordination across distribution functions. Data transparency enhances trust and reduces miscommunication among actors. However, latent conflict emerged during the early stages of implementation, particularly related to technological adaptation and changes in work practices. Digitalization also strengthens organizational control over sales personnel, increasing accountability while potentially generating tension in labor relations. The study highlights that the success of digital transformation depends on both internal and external factors, especially digital infrastructure and technological literacy. Adaptive digital governance is therefore required to ensure inclusive and sustainable transformation. This research provides a context-sensitive understanding of FMCG distribution digitalization at the regional level.

Keywords: *digital transformation; ERP; SFA; FMCG, sales and distribution; organizational conflict*

INTRODUCTION

The Fast-Moving Consumer Goods (FMCG) industry is one of the most dynamic sectors in both the global and national economies, characterized by rapid product turnover, relatively low profit margins, and a high dependence on the efficiency of distribution systems. These characteristics make distribution a key element in maintaining supply continuity and corporate competitiveness. In Indonesia, consistent growth in household consumption has driven the expansion of the FMCG sector, particularly in the food and beverage categories, thereby increasing

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the complexity of supply chain and distribution management (Heizer et al., 2020). In this context, the distribution system functions not only as a logistics mechanism but also as a strategic instrument that determines service quality, product availability, and the stability of customer relationships.

Regions such as West Nusa Tenggara (NTB) face various structural challenges in distribution management, including limited transportation infrastructure, market fragmentation, and dependence on supplies from distribution centers outside the region. The archipelagic geography and development disparities among regions complicate the distribution process, thereby increasing logistics costs and extending delivery times. In this context, the distribution function is no longer merely an operational activity but has become an integral part of the regional economic system, playing a role in ensuring the availability of goods and market stability.

In recent years, the issue of the digital infrastructure gap between urban areas and eastern Indonesia, including West Nusa Tenggara (NTB), has also become a focus within the national development framework. Programs such as the Palapa Ring and the digitalization agenda outlined in the Ministry of Communication and Digital Affairs' Strategic Plan for 2025–2029 demonstrate that the government is striving to strengthen the foundation of connectivity as a prerequisite for digital transformation[1]. Therefore, improvements in distribution performance at the company level cannot be separated from external conditions shaped by digital policies and governance at the regional level.

Advances in digital technology, particularly Enterprise Resource Planning (ERP) and Sales Force Automation (SFA) systems, have driven the transformation from conventional distribution systems toward more integrated, data-driven systems. This transformation enables real-time information synchronization, improved supply chain visibility, and faster, more accurate decision-making[2]. In the context of operations management, the integration of these systems contributes to increased efficiency and a reduction in administrative errors. However, digitalization also carries broader implications, particularly in altering coordination patterns, control mechanisms, and working relationships within distribution organizations.

Various studies indicate that the implementation of digital transformation does not always yield uniform results. A number of studies have identified technological capacity gaps, high implementation costs, and organizational resistance as the primary barriers to the digitization

[1] Kementerian Komunikasi dan Digital RI, "Kebijakan Terpadu Dan Infrastruktur Digital Jawaban Percepat Transformasi Digital."

[2] Queiroz et al., "Industry 4.0 and Digital Supply Chain Capabilities: A Framework for Understanding Digitalisation Challenges and Opportunities"; Ivanov and Dolgui, "A Digital Supply Chain Twin for Managing the Disruption Risks and Resilience in the Era of Industry 4.0."

process[3]. Furthermore, increased transparency and data openness can also give rise to new dynamics in the relationships among distribution actors, including potential tensions resulting from changes in information access and shifts in roles within organizations. In the context of traditional markets, low digital literacy also acts as a factor that slows technology adoption and creates disparities in the utilization of digital systems[4].

Digital transformation in distribution systems can also be understood as part of a broader evolution of business strategy, in which information technology serves as a source of competitive advantage[5]. Within the framework of the digital supply chain, system integration not only improves efficiency but also creates flexibility and responsiveness to market demand dynamics[6]. On the other hand, the process of technology adoption within an organization does not occur instantly but rather proceeds through stages of innovation diffusion influenced by organizational characteristics, incentive structures, and individual capacity to adopt change[7]. This indicates that digital transformation is a socio-technical process involving the interaction between technology, people, and organizational structures.

Although the literature on digital transformation in supply chains continues to grow, there remains a tendency to generalize findings without considering regional contextual variations and infrastructure capacity. Studies specifically examining digital transformation among regional distributors in areas with limited infrastructure are still relatively scarce. Furthermore, the integration of distribution management perspectives and regional digital governance has not yet been extensively explored empirically. In fact, the success of digital transformation at the organizational level is heavily influenced by external conditions such as infrastructure availability, digital policies, and the capacity of actors within the distribution ecosystem.

Based on this, this study identifies three main research gaps. First, the scarcity of empirical studies on the digital transformation of FMCG distribution in regions with limited infrastructure. Second, the lack of analysis linking digital transformation to organizational dynamics, including changes in working relationships and the potential for latent conflict within the distribution system.

[3] Vial, "Understanding Digital Transformation: A Review and a Research Agenda"; Hanelt et al., "A Systematic Review of the Literature on Digital Transformation: Insights and Implications for Strategy and Organizational Change."

[4] Rahayu and Day, "Determinant Factors of E-Commerce Adoption by Smes in Developing Country: Evidence from Indonesia."

[5] Porter, "Strategy and the Internet."

[6] Büyüközkan and Göçer, "Digital Supply Chain: Literature Review and a Proposed Framework for Future Research."

[7] Rogers, *Diffusion of Innovations*.

Third, there is a scarcity of studies linking digitalization practices at the corporate level to regional digital governance frameworks as external factors influencing the success of implementation.

In line with this, the objectives of this study are: (1) to analyze the impact of ERP and SFA-based digital transformation on distribution efficiency and performance; (2) to examine the organizational dynamics that emerge during the digital transformation process, including changes in control mechanisms and relationships among actors; and (3) to formulate implications of digital governance for local governments in supporting the digital transformation of regional distributors in areas with limited infrastructure. Thus, this study contributes to the development of digital supply chain literature by integrating the perspectives of operations management and public governance within the context of regional distribution.

RESEARCH METHOD

This study employs a qualitative approach using an exploratory case study design to conduct an in-depth analysis of the implementation of digital transformation within the sales distribution system in the FMCG sector. The case study approach was chosen because it allows researchers to understand the phenomenon of digital transformation in a contextual, holistic manner, grounded in real-world practices within the organization[8]. This approach is also relevant for examining phenomena involving complex interactions between technology, business processes, and organizational dynamics, which cannot be reduced to separate variables.

Furthermore, this study views digital transformation not merely as a technical change, but as a socio-organizational process involving changes in work structures, coordination mechanisms, and relationships among actors within the distribution system. Therefore, a qualitative approach is considered appropriate for capturing these dynamics in greater depth, including potential latent tensions, resistance, and adaptation that arise during the technology implementation process.

The study was conducted at CV. JB Distributor Nusa Tenggara Barat, which operates in the Lombok and Sumbawa regions. The location was selected purposefully because the company has implemented an integrated distribution system based on Enterprise Resource Planning (ERP) and Sales Force Automation (SFA). Additionally, the company operates in a region with limited digital and logistics infrastructure, making it a relevant case study for understanding the challenges of digital transformation faced by regional distributors in Eastern Indonesia.

The characteristics of the operational area, which encompasses both urban and semi-rural regions, also introduce variations in the context of digital system implementation, particularly in

[8] Yin, *Case Study Research and Applications: Design and Methods*.

terms of connectivity, technological literacy, and customer interaction. Thus, this case study not only represents the organization's internal practices but also reflects the interactions between the company and its external environment that influence the success of digital transformation.

The research was conducted from January to March 2026, encompassing data collection, field observations, and the process of validating and clarifying findings with informants.

Research informants were selected using purposive sampling based on the following criteria: (1) direct involvement in the distribution process; and (2) experience both before and after the implementation of digitization. These criteria are essential to ensure that informants have an adequate basis for comparison when describing changes in the distribution system.

There were 12 informants, consisting of:

- 1 sales manager,
- 2 sales and finance administrative staff members,
- 5 salespeople,
- 4 customers, including retailers and wholesalers.

This study is designed to represent diverse perspectives within the distribution system, both from within the organization and from external stakeholders as users of distribution services. By involving customers as informants, this study also examines the impact of digital transformation on service quality and business relationships.

Data was collected using three main methods. First, semi-structured in-depth interviews were conducted using an interview guide that covered several key aspects, namely: changes in the distribution system before and after digitization; operational effectiveness; data accuracy and visibility; experiences with using the digital system; changes in work patterns; and potential obstacles, resistance, and adaptation dynamics during implementation[9]

Second, direct observation of distribution operations, including warehouse and inventory management, the use of SFA tools by sales staff, and data integration processes within the ERP system. The observations were conducted to validate the information obtained through interviews and to gain an understanding of the actual practices taking place on the ground[10].

Third, an analysis of documents, including sales and distribution reports, warehouse inventory data, sales representative visit reports, and standard operating procedures used in the distribution

[9] Creswell and Poth, *Qualitative Inquiry and Research Design: Choosing among Five Approaches*.
[10] Yin, *Case Study Research and Applications: Design and Methods*.

system. These documents are used to strengthen the empirical evidence and provide context for the findings obtained from interviews and observations[11].

Data analysis was conducted using the interactive model proposed by[12], which comprises three main stages: data reduction, data presentation, and drawing conclusions in an iterative manner. This process was repeated to ensure that the resulting interpretations were consistent with the empirical data.

This study also employed thematic analysis through the stages of open coding, axial coding, and selective coding[13] to identify patterns, themes, and relationships among categories in the data. This approach allowed the researcher to group findings into dimensions relevant to the study's focus, such as operational efficiency, data integration, sales force performance transformation, and the dynamics of actor relationships.

In addition, this study employs a before-and-after analysis to compare the state of the distribution system before and after the implementation of digitalization. This approach helps identify substantive changes, both in technical aspects and in organizational and governance aspects.

To strengthen the analytical framework, this study also integrates organizational and governance perspectives in interpreting the empirical findings, particularly regarding changes in control mechanisms, information distribution, and potential disparities in access within digital systems. Thus, the analysis does not stop at the operational level but also encompasses broader implications for organizational dynamics and the institutional environment.

Data validity is ensured through several strategies. First, source triangulation is conducted by comparing information from various informants who hold different positions and roles within the distribution system. Second, methodological triangulation is carried out through a combination of interviews, observations, and document analysis to ensure the consistency of findings.

Third, member checking is performed by confirming the results of interpretations with key informants to minimize researcher bias. Fourth, an audit trail is maintained by systematically documenting the entire research process, from data collection to analysis, thereby enabling the tracing of decision-making processes within the study.

[11] Ibid.; Bowen, "Document Analysis as a Qualitative Research Method."
[12] Miles, Huberman, and Saldaña, *Qualitative Data Analysis: A Methods Sourcebook*.
[13] Braun and Clarke, "Using Thematic Analysis in Psychology."

This approach is used to enhance the credibility, reliability, and transparency of the research, ensuring that the results obtained are academically accountable[14].

RESULTS AND DISCUSSION

The research findings indicate that the implementation of ERP- and SFA-based digital transformation in the distribution system of CV. JB Distributor Nusa Tenggara Barat has had a significant impact on improving operational efficiency, data accuracy, and the effectiveness of coordination among functions within the distribution chain. However, these findings reflect not only technical changes but also point to more complex organizational dynamics and governance structures.

Unlike approaches that view digitalization as a linear process toward efficiency, this study demonstrates that digital transformation in distribution systems also involves changes in work relationships, control mechanisms, and potential tensions among organizational actors. Therefore, the research findings are analyzed across three interrelated dimensions: supply chain management, organizational dynamics, and digital governance.

Based on thematic analysis, the research findings are grouped into four main dimensions: (1) operational efficiency of distribution; (2) data accuracy and integration; (3) transformation of sales force performance; and (4) dynamics of actor relationships and distribution governance.

Comparison of Systems Before and After Digitization

To provide a more systematic overview, Table 1 presents a comparison of the distribution system's conditions before and after the implementation of digitization.

Table 1. *Comparison of Distribution Systems Before and After Digitization*

NO	ASPECT	BEFORE	AFTER	IMPACT
1	Order Processing	Manual, paper-based	Automated via ERP	Faster processing time
2	Interdepartmental Coordination	Not integrated	Integrated real-time	Miscommunication is reduced
3	Inventory Data Accuracy	Prone to human error	Automated and synchronized system	More accurate data
4	Sales Monitoring	Not monitored	GPS and tracking systems	Increased control
5	Distribution Route	Unstructured	Systematically through SFA	Miscommunication is reduced
6	Customer Relations	Inconsistent	More transparent	Trust is increasing

[14] Lincoln and Guba, *Naturalistic Inquiry*.

The table shows that digitization not only improves technical efficiency but also transforms coordination patterns, information transparency, and decision-making mechanisms within the distribution system.

Operational Efficiency: System Integration and Distribution Responsiveness

Before digitization, the distribution process was fragmented and relied on manual coordination between departments, leading to delays and a high risk of administrative errors. The implementation of an ERP system transformed this into a real-time integrated system. As one informant noted:

> *"In the past, we had to wait for manual reports from sales before we could process orders in the warehouse. Now, as soon as an order is entered into the system, the warehouse can immediately prepare the items." (Sales Manager)*

Digitization eliminates delays in the distribution process, thereby increasing the speed and accuracy of operational processes. System integration enables real-time synchronization between sales, administration, and warehouse departments[15].

However, these findings also indicate that technology is not the sole determinant of efficiency. Adaptation of work procedures, organizational discipline, and consistent system usage are key factors determining the success of implementation. This reinforces the view that digital transformation is a socio-technical process involving the interaction between technology, people, and organizational structures[16].

Data Accuracy and Integration: Visibility and Power Relations

Digital transformation has had a significant impact on improving the accuracy of distribution data. Before implementation, manual inventory tracking often resulted in discrepancies between the data and the physical condition of the goods. After digitization, the ERP system enables automatic tracking and comprehensive data integration:

> *"In the past, there was often a discrepancy between the inventory on record and the actual stock in the warehouse. Now that hardly ever happens, because everything is entered directly into the system." (Warehouse Staff)*

Real-time data visibility also enables faster decision-making:

> *"Now we can see inventory levels right away without having to check manually. So decisions can be made faster." (Sales Supervisor)*

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[15] Heizer, Render, and Munson, *Operations Management: Sustainability and Supply Chain Management*.
[16] Verhoef et al., "Digital Transformation: A Multidisciplinary Reflection and Research Agenda."

These findings confirm that data visibility is a key factor in supply chain performance[17]. However, increased data transparency also has implications for power relations among distribution actors. Information that was previously distributed asymmetrically is now more centralized and accessible in real-time, potentially shifting the bargaining power among actors.

Thus, transparency not only impacts efficiency but also reshapes the structure of relationships within distribution organizations. In this context, managing access and control over data becomes a critical component of digital governance.

Transforming Sales Team Performance: Control and Autonomy

The implementation of SFA via handheld terminals has significantly transformed the way sales staff work. Activities that were previously based on manual record-keeping are now integrated into a digital system:

> *"Now that everything is in the system, all we have to do is follow the process. Our work is much more focused." (Salesman)*

GPS-based systems also strengthen the organization's control mechanisms:

> *"These days, we're actually under closer scrutiny because our location can be tracked. So we have to be more disciplined." (Salesman)*

This change reflects a shift toward digital control systems in modern organizations[18]. From an organizational perspective, this situation indicates an ambivalence between increased efficiency and intensified control.

Although this study did not find overt conflicts, there were indications of latent conflicts during the early implementation phase of the system. Several informants indicated difficulties in adaptation, particularly for actors with limited digital literacy. This situation suggests that digital transformation has the potential to create a new dividing line between actors who can adapt and those who are left behind.

Furthermore, the digitization of supervision also has the potential to create tension between the organization's need to enhance accountability and workers' need to maintain workplace autonomy. Therefore, a balance is required in system design to prevent the creation of exploitative work relationships.

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[17] Queiroz et al., "Industry 4.0 and Digital Supply Chain Capabilities: A Framework for Understanding Digitalisation Challenges and Opportunities"; Wamba et al., "Big Data Analytics and Business Value: A Mixed-Method Approach."

[18] Wamba et al., "Big Data Analytics and Business Value: A Mixed-Method Approach."

The Dynamics of Actor Relationships and Distribution Governance

Research findings indicate that increased information transparency tends to strengthen coordination among distribution actors and reduce miscommunication. However, conflicts do not disappear entirely; rather, they take on a different form.

Table 2. *Synthesis and Critical Analysis of the Digital Transformation of Distribution*

NO	THEME	EMPIRICAL FINDINGS	POSITIVE IMPACTIF	RISK / TENSION	ORGANIZATIONAL IMPLICATIONSL
1	Operational Efficiency	ERP integration streamlines the distribution process	A faster and more coordinated process	Reliance on the system is increasing	Standard operating procedures and a backup system are required
2	Data Accuracy	Real-time and integrated datas	Faster and more precise decisions	Centralization of data control	Data access and control measures are needed
3	Transparency	Transparency among distribution stakeholders	Reducing miscommunication	Shift in power dynamics	There is a need for proper management of information distribution
4	Digital Control	GPS-based monitoring of sales staff	Discipline and accountability have improved	Decrease in worker autonomy	A balance between workplace control and protection is needed
5	Technology Adoption	Most actors are able to adapt	Relatively low resistance	The digital literacy gap	Ongoing training and support are needed
6	Organizational Conflict	There is no open conflict, but there is a latent one	Operational stability remains intact	Hidden tensions among the actors	There is a need for communication and conflict resolution mechanisms

Conflicts that were previously operational and overt have shifted into latent tensions related to access to information, adaptability, and the distribution of control within digital systems. This suggests that digitalization does not eliminate conflict, but rather reconfigures patterns of interaction and power relations within organizations.

This finding reinforces the perspective that conflicts in modern organizations are often implicit and structured, thus requiring a governance approach that is sensitive to these dynamics.

E-Governance and Digital Transformation Governance

The success of digital transformation in distribution systems is determined not only by internal organizational factors, but also by the broader digital governance ecosystem. Factors such

as infrastructure, regulations, and the capabilities of external actors are key determinants of the sustainability of digital systems[19].

In this context, the role of local governments is not only to provide infrastructure but also to serve as facilitators of digital governance capable of ensuring that digital transformation proceeds in an inclusive and adaptive manner[20]. Digital governance encompasses aspects such as system standardization, data protection, and coordination mechanisms among actors in the distribution chain [21].

Relationship of the Findings to the Literature and Implications for Governance

This study shows that the relationship between digital transformation and governance is not linear. Digitalization leads to increased efficiency while also giving rise to new potential tensions that require an adaptive governance response.

Table 3. *The Relationship Between Empirical Findings and Theoretical Perspectives and Implications for Governance*

NO	THEME	EMPIRICAL FINDINGS	PREVIOUS LITERATURE	CRITICAL READING	GOVERNANCE IMPLICATIONS
1	Operational Efficiency	ERP integration improves distribution speed	Heizer et al. (2020)[22]	Efficiency is uneven	We need inclusive technology access policies
2	Data Accuracy	Real-time data improves visibility	Queiroz et al. (2019)[23]	Transparency is reshaping power dynamics	Data access and protection regulations
3	Conflict	Not overt, but latent	Simchi-Levi et al. (2008)[24]	Conflict takes on new forms	Facilitating digital adaptation and literacy
4	Control	Monitoring meningkatkan disiplin	Wamba et al. (2017)[25]	Risk of reduced autonomy	Protection of digital workers
5	Literacy	Uneven adaptation	Vial (2019)[26]	Capacity disparity	Digital Literacy Program
6	Infrastructure	Crucial	Not widely	Dominant	Integration in

[19] Vial, "Understanding Digital Transformation: A Review and a Research Agenda."
[20] Verhoef et al., "Digital Transformation: A Multidisciplinary Reflection and Research Agenda."
[21] Hanelt et al., "A Systematic Review of the Literature on Digital Transformation: Insights and Implications for Strategy and Organizational Change."
[22] Heizer, Render, and Munson, *Operations Management: Sustainability and Supply Chain Management*.
[23] Queiroz et al., "Industry 4.0 and Digital Supply Chain Capabilities: A Framework for Understanding Digitalisation Challenges and Opportunities."
[24] Simchi-Levi, Kaminsky, and Simchi-Levi, *Designing and Managing the Supply Chain: Concepts, Strategies, and Case Studies*.
[25] Wamba et al., "Big Data Analytics and Business Value: A Mixed-Method Approach."
[26] Vial, "Understanding Digital Transformation: A Review and a Research Agenda."

	discussed	external factors	regional planning

The table shows that digital governance serves as a balancing mechanism against potential inequalities, latent conflicts, and power asymmetries within digital distribution systems.

Synthesis of a Conceptual Model

This study proposes that the relationship between digitalization and distribution performance is mediated by operational system integration and moderated by three key factors: organizational readiness, human resource capacity, and infrastructure conditions.

The success of digital transformation is not automatic; rather, it depends on the alignment of technology, stakeholder capabilities, and the governance environment. Thus, digital transformation in FMCG distribution is a process that involves the interaction of technical, organizational, and governance dimensions.

Governance Implications: The Role of Local Governments

The findings of this study are exploratory and based on case studies; therefore, the implications drawn must be understood within their specific context. From a public administration perspective, a governance framework is needed that can support digital transformation without overlooking the potential for emerging inequalities[27].

Strengthening digital infrastructure is a key prerequisite for supporting digital-based distribution. Furthermore, improving digital literacy among distribution actors and customers is a critical factor in ensuring that the benefits of digitalization are accessible to all[28].

Additionally, regulations are needed to maintain a balance between operational efficiency and the protection of actors within the distribution system, particularly in the context of work based on digital monitoring[29]. Thus, digital governance functions not only as an enabler but also as a control mechanism for the dynamics arising from digital transformation[30].

CONCLUSION

This study analyzes the impact of ERP- and SFA-based digital transformation on the FMCG distribution system at CV. JB Distributor in West Nusa Tenggara by integrating perspectives from operations management, organizational dynamics, and digital governance. The results indicate that

[27] Tilly, *Durable Inequality*.
[28] Vial, "Understanding Digital Transformation: A Review and a Research Agenda."
[29] Wamba et al., "Big Data Analytics and Business Value: A Mixed-Method Approach."
[30] Verhoef et al., "Digital Transformation: A Multidisciplinary Reflection and Research Agenda."

digitalization significantly improves operational efficiency, data accuracy, and salesforce performance through more coordinated and data-driven system integration.

However, the findings of this study confirm that digital transformation cannot be understood solely as a linear technical process leading to efficiency. Digitalization also gives rise to more complex organizational dynamics, including changes in working relationships, intensified control mechanisms, and potential tensions among actors within the distribution system. Increased data transparency has been shown to strengthen coordination and reduce miscommunication, but at the same time has the potential to shift power dynamics through control over access to and distribution of information.

This study also found that conflicts in the context of digitalization have not entirely disappeared; rather, they have transformed from overt forms into latent, structural conflicts. These tensions primarily arise during the initial adaptation phase and among groups of actors with limited digital literacy. Furthermore, the implementation of technology-based monitoring systems reveals an ambivalence between increased organizational accountability and a potential reduction in worker autonomy.

From a governance perspective, the success of digital transformation in distribution systems is heavily influenced by external factors, particularly digital infrastructure and the adaptability of stakeholders. This indicates that digital transformation at the corporate level cannot be separated from the broader governance ecosystem. The role of local governments becomes relevant in this context, particularly as facilitators ensuring the availability of infrastructure, the improvement of digital literacy, and the creation of a regulatory framework capable of maintaining a balance between efficiency, inclusivity, and the protection of actors within the distribution system.

Theoretically, this study contributes by demonstrating that the relationship between digitalization and distribution performance is contextual, mediated by organizational factors, and moderated by external conditions. These findings challenge the deterministic assumptions in the literature, which tend to view digitalization as a universal solution to distribution problems.

This study has limitations due to the use of a single-case study design, which restricts the generalizability of the findings. Therefore, further research is recommended using a multi-case approach or quantitative methods to test the proposed model in more diverse contexts. Furthermore, future research could further explore the relationship between digitalization, organizational control, and conflict dynamics across various distribution sectors to enrich our understanding of digital transformation governance.

REFERENCES

Bowen, Glenn A. "Document Analysis as a Qualitative Research Method." *Qualitative Research Journal* 9, no. 2 (2009): 27–40. doi:10.3316/QRJ0902027.

Braun, Virginia, and Victoria Clarke. "Using Thematic Analysis in Psychology." *Qualitative Research in Psychology* 3, no. 2 (2006): 77–101. doi:10.1191/1478088706qp063oa.

Büyüközkan, Gülşun, and Fatma Göçer. "Digital Supply Chain: Literature Review and a Proposed Framework for Future Research." *Computers in Industry* 97 (2018): 157–77. doi:10.1016/j.compind.2018.02.010.

Creswell, John W., and Cheryl N. Poth. *Qualitative Inquiry and Research Design: Choosing among Five Approaches*. 4th ed. Thousand Oaks, CA: Sage Publications, 2018.

Hanelt, Andre, René Bohnsack, David Marz, and Claudia Antunes Marante. "A Systematic Review of the Literature on Digital Transformation: Insights and Implications for Strategy and Organizational Change." *Journal of Management Studies* 58, no. 5 (2021): 1159–97. doi:10.1111/joms.12639.

Heizer, Jay, Barry Render, and Chuck Munson. *Operations Management: Sustainability and Supply Chain Management*. 13th ed. Pearson, 2020.

Ivanov, Dmitry, and Alexandre Dolgui. "A Digital Supply Chain Twin for Managing the Disruption Risks and Resilience in the Era of Industry 4.0." *Production Planning & Control* 32, no. 9 (2021): 775–88. doi:10.1080/09537287.2020.1768450.

Kementerian Komunikasi dan Digital RI. "Kebijakan Terpadu Dan Infrastruktur Digital Jawaban Percepat Transformasi Digital." Jakarta: Direktorat Jenderal Infrastruktur Digital, 2024.

Lincoln, Yvonna S., and Egon G. Guba. *Naturalistic Inquiry*. Beverly Hills, CA: Sage Publications, 1985.

Miles, Matthew B., A. Michael Huberman, and Johnny Saldaña. *Qualitative Data Analysis: A Methods Sourcebook*. 3rd ed. Sage Publications, 2014.

Porter, Michael E. "Strategy and the Internet." *Harvard Business Review* 79, no. 3 (2001): 62–78.

Queiroz, Maciel M., Susana C. F. Pereira, Renato Telles, and M. C. Machado. "Industry 4.0 and Digital Supply Chain Capabilities: A Framework for Understanding Digitalisation Challenges and Opportunities." *Benchmarking: An International Journal* 28, no. 5 (2019): 1761–82. doi:10.1108/BIJ-12-2018-0435.

Rahayu, Rita, and John Day. "Determinant Factors of E-Commerce Adoption by Smes in Developing Country: Evidence from Indonesia." *Procedia - Social and Behavioral Sciences* 195 (2015): 142–50. doi:10.1016/j.sbspro.2015.06.423.

Rogers, Everett M. *Diffusion of Innovations*. 5th ed. New York: Free Press, 2003.

Simchi-Levi, David, Philip Kaminsky, and Edith Simchi-Levi. *Designing and Managing the Supply Chain: Concepts, Strategies, and Case Studies*. 3rd ed. McGraw-Hill, 2008.

Tilly, Charles. *Durable Inequality*. Berkeley, CA: University of California Press, 1998.

Verhoef, Peter C., Thijs Broekhuizen, Yakov Bart, Abhi Bhattacharya, John Qi Dong, Nicolai Fabian, and Michael Haenlein. "Digital Transformation: A Multidisciplinary Reflection and Research Agenda." *Journal of Business Research* 122 (2021): 889–901. doi:10.1016/j.jbusres.2019.09.022.

Vial, Gregory. "Understanding Digital Transformation: A Review and a Research Agenda." *Journal of Strategic Information Systems* 28, no. 2 (2019): 118–44. doi:10.1016/j.jsis.2019.01.003.

Wamba, Samuel Fosso, Angappa Gunasekaran, Shahriar Akter, Steven J. F. Pape, Eric W. T. Ngai, and Benjamin T. Hazen. "Big Data Analytics and Business Value: A Mixed-Method Approach." *Information & Management* 54, no. 1 (2017): 12–27. doi:10.1016/j.im.2016.03.006.

Yin, Robert K. *Case Study Research and Applications: Design and Methods*. 6th ed. Thousand Oaks, CA: Sage Publications, 2018.