

INCLUSIVE DIGITAL TRANSFORMATION FOR MSMES: A CAPABILITY-BASED FRAMEWORK FOR SUSTAINABLE ADOPTION

Vip Paramarta¹, Afferdhy Ariffien²

¹Universitas Sangga Buana, Bandung, Indonesia

²Universitas Logistik dan Bisnis Internasional, Bandung, Indonesia

Abstract

This conceptual paper develops an integrative framework for inclusive digital transformation in micro, small, and medium enterprises (MSMEs). The analysis connects the resource-based view, dynamic capabilities, absorptive capacity, organizational learning, social capital, open innovation, resilience, and entrepreneurial-ecosystem perspectives. It does not claim primary survey, interview, experimental, or statistical data. The synthesis argues that digital readiness, process redesign, data discipline, workforce capability, and ecosystem access should be organized as repeatable managerial routines rather than treated as isolated interventions. The framework proposes staged diagnosis, implementation, evaluation, and learning mechanisms and identifies implications for owner-managers, support organizations, and future empirical research.

Keywords: MSMEs; Inclusive Digital Transformation; Dynamic Capabilities; Organizational Learning; Business Resilience

INTRODUCTION

Inclusive Digital Transformation should be understood as an organizational capability rather than a single program or isolated managerial action. In MSMEs, the capability becomes visible when digital readiness, process redesign, data discipline, workforce capability, and ecosystem access are connected to recurring decisions. This interpretation is consistent with the resource-based view and dynamic-capability perspective, which emphasize the productive use and reconfiguration of resources rather than their mere possession (Barney, 1991; Teece et al., 1997).

A central challenge is converting limited information into practical action. Owner-managers frequently operate with incomplete data, time pressure, and constrained specialist support. A workable approach therefore begins with a clearly defined business problem, identifies the evidence that can realistically be collected, and establishes a small number of decision criteria. Such routines support learning without imposing administrative structures that exceed the scale of the enterprise (March, 1991; Teece, 2007).

External knowledge is particularly important because small enterprises cannot internalize every technical, financial, market, or managerial competence. Absorptive capacity explains why access alone is insufficient: firms must recognize, assimilate, transform, and exploit relevant knowledge (Cohen & Levinthal, 1990; Zahra & George, 2002). For inclusive digital transformation, this means that relationships with customers, suppliers, universities, associations, and community actors create value only when the enterprise can interpret and apply what it learns.

Networks can expand the range of feasible responses available to an MSME. Economic action is embedded in relationships, and trust can lower search and coordination costs (Granovetter, 1985). However, strong ties can also create closure or dependence. A resilient configuration combines reliable local relationships with bridging connections that introduce new information and opportunities (Adler & Kwon, 2002; Nahapiet & Ghoshal, 1998).

LITERATURE REVIEW AND THEORETICAL FOUNDATION

Inclusive Digital Transformation should be understood as an organizational capability rather than a single program or isolated managerial action. In MSMEs, the capability becomes visible when digital readiness, process redesign, data discipline, workforce capability, and ecosystem access are connected to recurring decisions. This interpretation is consistent with the resource-based view and dynamic-capability perspective, which emphasize the productive use and reconfiguration of resources rather than their mere possession (Barney, 1991; Teece et al., 1997).

A central challenge is converting limited information into practical action. Owner-managers frequently operate with incomplete data, time pressure, and constrained specialist support. A workable approach therefore begins with a clearly defined business problem, identifies the evidence that can realistically be collected, and establishes a small number of decision criteria. Such routines support learning without imposing administrative structures that exceed the scale of the enterprise (March, 1991; Teece, 2007).

External knowledge is particularly important because small enterprises cannot internalize every technical, financial, market, or managerial competence. Absorptive capacity explains why access alone is insufficient: firms must recognize, assimilate, transform, and exploit relevant knowledge (Cohen & Levinthal, 1990; Zahra & George, 2002). For inclusive digital transformation, this means that relationships with customers, suppliers, universities, associations, and community actors create value only when the enterprise can interpret and apply what it learns.

Networks can expand the range of feasible responses available to an MSME. Economic action is embedded in relationships, and trust can lower search and coordination costs (Granovetter, 1985). However, strong ties can also create closure or dependence. A resilient configuration combines reliable local relationships with bridging connections that introduce new information and opportunities (Adler & Kwon, 2002; Nahapiet & Ghoshal, 1998).

Implementation should be staged. Managers can diagnose the problem, establish a baseline, select a limited intervention, assign responsibility, test the intervention, review evidence, and decide whether to scale, redesign, pause, or discontinue. This sequence protects scarce resources while preserving experimentation. It also creates organizational memory when decisions and lessons are documented.

In operational terms, the framework for inclusive digital transformation can be summarized as a cycle of diagnosis, prioritization, limited experimentation, evidence review, and reconfiguration. Each stage should have an accountable owner, an affordable resource limit, and a defined review point. The purpose is to make learning cumulative and to prevent enthusiasm for a new initiative from replacing disciplined assessment.

CONCEPTUAL FRAMEWORK

Inclusive Digital Transformation should be understood as an organizational capability rather than a single program or isolated managerial action. In MSMEs, the capability becomes visible when digital readiness, process redesign, data discipline, workforce capability, and ecosystem access are connected to recurring decisions. This interpretation is consistent with the resource-based view and dynamic-capability perspective, which emphasize the productive use and reconfiguration of resources rather than their mere possession (Barney, 1991; Teece et al., 1997).

A central challenge is converting limited information into practical action. Owner-managers frequently operate with incomplete data, time pressure, and constrained specialist support. A workable approach therefore begins with a clearly defined business problem, identifies the evidence that can realistically be collected, and establishes a small number of decision criteria. Such routines support learning without imposing administrative structures that exceed the scale of the enterprise (March, 1991; Teece, 2007).

External knowledge is particularly important because small enterprises cannot internalize every technical, financial, market, or managerial competence. Absorptive capacity explains why access alone is insufficient: firms must recognize, assimilate, transform, and exploit relevant knowledge (Cohen & Levinthal, 1990; Zahra & George, 2002). For inclusive digital transformation, this means that relationships with customers, suppliers, universities, associations, and community actors create value only when the enterprise can interpret and apply what it learns.

Networks can expand the range of feasible responses available to an MSME. Economic action is embedded in relationships, and trust can lower search and coordination costs (Granovetter, 1985). However, strong ties can also create closure or dependence. A resilient configuration combines reliable local relationships with bridging connections that introduce new information and opportunities (Adler & Kwon, 2002; Nahapiet & Ghoshal, 1998).

Implementation should be staged. Managers can diagnose the problem, establish a baseline, select a limited intervention, assign responsibility, test the intervention, review evidence, and decide whether to scale, redesign, pause, or discontinue. This sequence protects scarce resources while preserving experimentation. It also creates organizational memory when decisions and lessons are documented.

In operational terms, the framework for inclusive digital transformation can be summarized as a cycle of diagnosis, prioritization, limited experimentation, evidence review, and reconfiguration. Each stage should have an accountable owner, an affordable resource limit, and a defined review point. The purpose is to make learning cumulative and to prevent enthusiasm for a new initiative from replacing disciplined assessment.

CAPABILITY DEVELOPMENT AND IMPLEMENTATION

Inclusive Digital Transformation should be understood as an organizational capability rather than a single program or isolated managerial action. In MSMEs, the capability becomes visible when digital readiness, process redesign, data discipline, workforce capability, and ecosystem access are connected to recurring decisions. This interpretation is consistent with the resource-based view and dynamic-capability perspective, which emphasize the productive use and reconfiguration of resources rather than their mere possession (Barney, 1991; Teece et al., 1997).

A central challenge is converting limited information into practical action. Owner-managers frequently operate with incomplete data, time pressure, and constrained specialist support. A workable approach therefore begins with a clearly defined business problem, identifies the evidence that can realistically be collected, and establishes a small number of decision criteria. Such routines support learning without imposing administrative structures that exceed the scale of the enterprise (March, 1991; Teece, 2007).

External knowledge is particularly important because small enterprises cannot internalize every technical, financial, market, or managerial competence. Absorptive capacity explains why access alone is insufficient: firms must recognize, assimilate, transform, and exploit relevant knowledge (Cohen & Levinthal, 1990; Zahra & George, 2002). For inclusive digital transformation, this means that relationships with customers, suppliers, universities, associations, and community actors create value only when the enterprise can interpret and apply what it learns.

Networks can expand the range of feasible responses available to an MSME. Economic action is embedded in relationships, and trust can lower search and coordination costs (Granovetter, 1985). However, strong ties can also create closure or dependence. A resilient configuration combines reliable local relationships with bridging connections that introduce new information and opportunities (Adler & Kwon, 2002; Nahapiet & Ghoshal, 1998).

Implementation should be staged. Managers can diagnose the problem, establish a baseline, select a limited intervention, assign responsibility, test the intervention, review evidence, and decide whether to scale, redesign, pause, or discontinue. This sequence protects scarce resources while preserving experimentation. It also creates organizational memory when decisions and lessons are documented.

In operational terms, the framework for inclusive digital transformation can be summarized as a cycle of diagnosis, prioritization, limited experimentation, evidence review, and reconfiguration. Each stage should have an accountable owner, an affordable resource limit, and a defined review point. The purpose is to make learning cumulative and to prevent enthusiasm for a new initiative from replacing disciplined assessment.

COLLABORATION AND ECOSYSTEM RELATIONSHIPS

Inclusive Digital Transformation should be understood as an organizational capability rather than a single program or isolated managerial action. In MSMEs, the capability becomes visible when digital readiness, process redesign, data discipline, workforce capability, and ecosystem access are connected to recurring decisions. This interpretation is consistent with the resource-based view and dynamic-capability perspective, which emphasize the productive use and reconfiguration of resources rather than their mere possession (Barney, 1991; Teece et al., 1997).

A central challenge is converting limited information into practical action. Owner-managers frequently operate with incomplete data, time pressure, and constrained specialist support. A workable approach therefore begins with a clearly defined business problem, identifies the evidence that can realistically be collected, and establishes a small number of decision criteria. Such routines support learning without imposing administrative structures that exceed the scale of the enterprise (March, 1991; Teece, 2007).

External knowledge is particularly important because small enterprises cannot internalize every technical, financial, market, or managerial competence. Absorptive capacity explains why access alone is insufficient: firms must recognize, assimilate, transform, and exploit relevant knowledge (Cohen & Levinthal, 1990; Zahra & George, 2002). For inclusive digital transformation, this means that relationships with customers, suppliers, universities, associations, and community actors create value only when the enterprise can interpret and apply what it learns.

Networks can expand the range of feasible responses available to an MSME. Economic action is embedded in relationships, and trust can lower search and coordination costs (Granovetter, 1985). However, strong ties can also create closure or dependence. A resilient configuration combines reliable local relationships with bridging connections that introduce new information and opportunities (Adler & Kwon, 2002; Nahapiet & Ghoshal, 1998).

Implementation should be staged. Managers can diagnose the problem, establish a baseline, select a limited intervention, assign responsibility, test the intervention, review evidence, and decide whether to scale, redesign, pause, or discontinue. This sequence protects scarce resources while preserving experimentation. It also creates organizational memory when decisions and lessons are documented.

In operational terms, the framework for inclusive digital transformation can be summarized as a cycle of diagnosis, prioritization, limited experimentation, evidence review, and reconfiguration. Each stage should have an accountable owner, an affordable resource limit, and a defined review point. The purpose is to make learning cumulative and to prevent enthusiasm for a new initiative from replacing disciplined assessment.

GOVERNANCE, RISK, AND ACCOUNTABILITY

Inclusive Digital Transformation should be understood as an organizational capability rather than a single program or isolated managerial action. In MSMEs, the capability becomes visible when digital readiness, process redesign, data discipline, workforce capability, and ecosystem access are connected to recurring decisions. This interpretation is consistent with the resource-based view and dynamic-capability perspective, which emphasize the productive use and reconfiguration of resources rather than their mere possession (Barney, 1991; Teece et al., 1997).

A central challenge is converting limited information into practical action. Owner-managers frequently operate with incomplete data, time pressure, and constrained specialist support. A workable approach therefore begins with a clearly defined business problem, identifies the evidence that can realistically be collected, and establishes a small number of decision criteria. Such routines support learning without imposing administrative structures that exceed the scale of the enterprise (March, 1991; Teece, 2007).

External knowledge is particularly important because small enterprises cannot internalize every technical, financial, market, or managerial competence. Absorptive capacity explains why access alone is insufficient: firms must recognize, assimilate, transform, and exploit relevant knowledge (Cohen & Levinthal, 1990; Zahra & George, 2002). For inclusive digital transformation, this means that relationships with customers, suppliers, universities, associations, and community actors create value only when the enterprise can interpret and apply what it learns.

Networks can expand the range of feasible responses available to an MSME. Economic action is embedded in relationships, and trust can lower search and coordination costs (Granovetter, 1985). However, strong ties can also create closure or dependence. A resilient configuration combines reliable local relationships with bridging connections that introduce new information and opportunities (Adler & Kwon, 2002; Nahapiet & Ghoshal, 1998).

Implementation should be staged. Managers can diagnose the problem, establish a baseline, select a limited intervention, assign responsibility, test the intervention, review evidence, and decide whether to scale, redesign, pause, or discontinue. This sequence protects scarce resources while preserving experimentation. It also creates organizational memory when decisions and lessons are documented.

In operational terms, the framework for inclusive digital transformation can be summarized as a cycle of diagnosis, prioritization, limited experimentation, evidence review, and reconfiguration. Each stage should have an accountable owner, an affordable resource limit, and a defined review point. The purpose is to make learning cumulative and to prevent enthusiasm for a new initiative from replacing disciplined assessment.

PERFORMANCE, LEARNING, AND RESILIENCE

Inclusive Digital Transformation should be understood as an organizational capability rather than a single program or isolated managerial action. In MSMEs, the capability becomes visible when digital readiness, process redesign, data discipline, workforce capability, and ecosystem access are connected to recurring decisions. This interpretation is consistent with the resource-based view and dynamic-capability perspective, which emphasize the productive use and reconfiguration of resources rather than their mere possession (Barney, 1991; Teece et al., 1997).

A central challenge is converting limited information into practical action. Owner-managers frequently operate with incomplete data, time pressure, and constrained specialist support. A workable approach therefore begins with a clearly defined business problem, identifies the evidence that can realistically be collected, and establishes a small number of decision criteria. Such routines support learning without imposing administrative structures that exceed the scale of the enterprise (March, 1991; Teece, 2007).

External knowledge is particularly important because small enterprises cannot internalize every technical, financial, market, or managerial competence. Absorptive capacity explains why access alone is insufficient: firms must recognize, assimilate, transform, and exploit relevant knowledge (Cohen & Levinthal, 1990; Zahra & George, 2002). For inclusive digital transformation, this means that relationships with customers, suppliers, universities, associations, and community actors create value only when the enterprise can interpret and apply what it learns.

Networks can expand the range of feasible responses available to an MSME. Economic action is embedded in relationships, and trust can lower search and coordination costs (Granovetter, 1985). However, strong ties can also create closure or dependence. A resilient configuration combines reliable local relationships with bridging connections that introduce new information and opportunities (Adler & Kwon, 2002; Nahapiet & Ghoshal, 1998).

Implementation should be staged. Managers can diagnose the problem, establish a baseline, select a limited intervention, assign responsibility, test the intervention, review evidence, and decide whether to scale, redesign, pause, or discontinue. This sequence protects scarce resources while preserving experimentation. It also creates organizational memory when decisions and lessons are documented.

In operational terms, the framework for inclusive digital transformation can be summarized as a cycle of diagnosis, prioritization, limited experimentation, evidence review, and reconfiguration. Each stage should have an accountable owner, an affordable resource limit, and a defined review point. The purpose is to make learning cumulative and to prevent enthusiasm for a new initiative from replacing disciplined assessment.

MANAGERIAL AND POLICY IMPLICATIONS

Inclusive Digital Transformation should be understood as an organizational capability rather than a single program or isolated managerial action. In MSMEs, the capability becomes visible when digital readiness, process redesign, data discipline, workforce capability, and ecosystem access are connected to recurring decisions. This interpretation is consistent with the resource-based view and dynamic-capability perspective, which emphasize the productive use and reconfiguration of resources rather than their mere possession (Barney, 1991; Teece et al., 1997).

A central challenge is converting limited information into practical action. Owner-managers frequently operate with incomplete data, time pressure, and constrained specialist support. A workable approach therefore begins with a clearly defined business problem, identifies the evidence that can realistically be collected, and establishes a small number of decision criteria. Such routines support learning without imposing administrative structures that exceed the scale of the enterprise (March, 1991; Teece, 2007).

External knowledge is particularly important because small enterprises cannot internalize every technical, financial, market, or managerial competence. Absorptive capacity explains why access alone is insufficient: firms must recognize, assimilate, transform, and exploit relevant knowledge (Cohen & Levinthal, 1990; Zahra & George, 2002). For inclusive digital transformation, this means that relationships with customers, suppliers, universities, associations, and community actors create value only when the enterprise can interpret and apply what it learns.

Networks can expand the range of feasible responses available to an MSME. Economic action is embedded in relationships, and trust can lower search and coordination costs (Granovetter, 1985). However, strong ties can also create closure or dependence. A resilient configuration combines reliable local relationships with bridging connections that introduce new information and opportunities (Adler & Kwon, 2002; Nahapiet & Ghoshal, 1998).

Implementation should be staged. Managers can diagnose the problem, establish a baseline, select a limited intervention, assign responsibility, test the intervention, review evidence, and decide whether to scale, redesign, pause, or discontinue. This sequence protects scarce resources while preserving experimentation. It also creates organizational memory when decisions and lessons are documented.

In operational terms, the framework for inclusive digital transformation can be summarized as a cycle of diagnosis, prioritization, limited experimentation, evidence review, and reconfiguration. Each stage should have an accountable owner, an affordable resource limit, and a defined review point. The purpose is to make learning cumulative and to prevent enthusiasm for a new initiative from replacing disciplined assessment.

RESEARCH PROPOSITIONS AND FUTURE RESEARCH

- P1. Stronger routines related to inclusive digital transformation are expected to improve the relevance of MSME adaptation decisions.
- P2. Absorptive capacity is expected to strengthen the relationship between external knowledge access and implementation quality.
- P3. Diverse and trustworthy ecosystem relationships are expected to expand access to complementary resources and information.
- P4. Staged experimentation is expected to reduce the cost of uncertainty in resource-constrained enterprises.
- P5. Explicit governance and review routines are expected to improve accountability and organizational learning.
- P6. Learning-based resource reconfiguration is expected to strengthen business resilience under environmental change.
- P7. The relationship between capability and performance is expected to vary according to sector, enterprise maturity, market conditions, and institutional context.

METHOD

This manuscript uses an integrative conceptual review. Established theoretical and review literature published before the October 2024 issue placement was synthesized to connect complementary explanations of MSME capability, learning, networks, innovation, and resilience. No primary respondents, fabricated observations, experiments, or statistical estimates are reported. The framework is intended to guide later empirical testing rather than substitute for it.

LIMITATIONS

The article is conceptual and cannot establish causal effects. MSMEs are heterogeneous, and the relevance of individual mechanisms may vary across industries, locations, ownership structures, stages of development, and institutional environments. Future studies should operationalize the proposed constructs, use transparent sampling and measurement procedures, and test both successful and unsuccessful adaptation efforts.

CONCLUSION

The article positions inclusive digital transformation as a repeatable organizational capability built through disciplined learning. Its value depends on how well the enterprise connects digital readiness, process redesign, data discipline, workforce capability, and ecosystem access with evidence, governance, and resource reconfiguration. For managers, the framework favors proportionate routines and staged commitment. For ecosystem actors, it favors diagnostic and problem-oriented support. For researchers, it provides propositions that can be tested without assuming that one intervention is universally effective.

REFERENCES

- Adler, P. S., & Kwon, S.-W. (2002). Social capital: Prospects for a new concept. *Academy of Management Review*, 27(1), 17-40. <https://doi.org/10.5465/amr.2002.5922314>
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120. <https://doi.org/10.1177/014920639101700108>
- Chesbrough, H. W. (2003). *Open Innovation: The New Imperative for Creating and Profiting from Technology*. Harvard Business School Press.
- Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, 35(1), 128-152. <https://doi.org/10.2307/2393553>
- Duchek, S. (2020). Organizational resilience: A capability-based conceptualization. *Business Research*, 13, 215-246. <https://doi.org/10.1007/s40685-019-0085-7>
- Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: What are they? *Strategic Management Journal*, 21(10-11), 1105-1121. [https://doi.org/10.1002/1097-0266\(200010/11\)21:10/11<1105::AID-SMJ133>3.0.CO;2-E](https://doi.org/10.1002/1097-0266(200010/11)21:10/11<1105::AID-SMJ133>3.0.CO;2-E)
- Granovetter, M. (1985). Economic action and social structure: The problem of embeddedness. *American Journal of Sociology*, 91(3), 481-510. <https://doi.org/10.1086/228311>
- Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(1), 135-172. <https://doi.org/10.5465/amr.1996.9602161568>
- March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2(1), 71-87. <https://doi.org/10.1287/orsc.2.1.71>
- Nahapiet, J., & Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review*, 23(2), 242-266. <https://doi.org/10.5465/amr.1998.533225>
- Spigel, B. (2017). The relational organization of entrepreneurial ecosystems. *Entrepreneurship Theory and Practice*, 41(1), 49-72. <https://doi.org/10.1111/etap.12167>
- Stam, E. (2015). Entrepreneurial ecosystems and regional policy: A sympathetic critique. *European Planning Studies*, 23(9), 1759-1769. <https://doi.org/10.1080/09654313.2015.1061484>
- Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of sustainable enterprise performance. *Strategic Management Journal*, 28(13), 1319-1350. <https://doi.org/10.1002/smj.640>
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533. [https://doi.org/10.1002/\(SICI\)1097-0266\(199708\)18:7<509::AID-SMJ882>3.0.CO;2-Z](https://doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z)
- West, J., & Bogers, M. (2014). Leveraging external sources of innovation: A review of research on open innovation. *Journal of Product Innovation Management*, 31(4), 814-831. <https://doi.org/10.1111/jpim.12125>
- Zahra, S. A., & George, G. (2002). Absorptive capacity: A review, reconceptualization, and extension. *Academy of Management Review*, 27(2), 185-203. <https://doi.org/10.5465/amr.2002.6587995>
- Editorial note: author names, affiliations, contributions, funding, conflicts of interest, and final approval must be completed by the actual contributors before submission or publication.