

DIGITAL BUSINESS TRANSFORMATION IS PRIMARILY A HUMAN CHALLENGE, NOT A DIGITAL ONE

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Abstract: *Digital transformation (DX) failures are more often rooted in organizational and human factors than in technological inadequacy. This paper shows that the frequently cited 70% failure rate of DX initiatives is closely related to insufficient attention to shared vision, stakeholder alignment, change leadership, continuous learning, and organizational culture. The paper integrates David Rogers' digital transformation roadmap, John Kotter's change leadership framework, Peter Senge's learning organization principles, and Nigel Vaz's emphasis on learning, unlearning, and relearning. To complement this conceptual synthesis, the paper includes an exploratory descriptive analysis of four course-based analytical tasks completed by master's-level students with substantial professional experience. The descriptive findings are consistent with the theoretical emphasis on strategic coherence, psychological safety, problem validation, learning capability, and structural alignment. The paper therefore frames digital business transformation primarily as an organizational challenge in which technology functions as an enabler rather than the primary determinant of success.*

Keywords: *digital transformation, organizational change, shared vision, learning organization, change leadership.*

1 Introduction

Over the last three decades, advances in computer hardware, software, and networks have produced a sequence of related concepts. Digitization refers to the conversion of analogue information into digital form, while digitalization refers to the broader reorganization of social and organizational life around digital communication and media infrastructures. Digital transformation goes further and can be understood as an attempt to improve an entity by triggering significant changes through combinations of information, computing, communication, and connectivity technologies (Brennen & Kreiss, 2014; Vial, 2019).

In practice, however, transformation rarely fails because organizations cannot buy or deploy technology. The more persistent problem is that new technologies unsettle established processes, governance structures, and cultural assumptions. This pattern suggests that digital transformation should be treated as a combination of digital strategy and organizational change rather than as a technology implementation project (Rogers, 2023). This broader view is consistent with review-based evidence showing that digital transformation research in business and management increasingly emphasizes strategy, change management, dynamic capabilities, and value creation rather than technology adoption alone (Kraus et al., 2022).

Many organizations are redesigning communication channels, customer interfaces, internal workflows, and business models in response to changing customer expectations and intensified competition. Although such initiatives often promise gains in speed, quality, and productivity, they also generate resistance, coordination problems, and uncertainty. As Rogers (2023) emphasizes, transformation unfolds in a turbulent environment where customer needs, competitive dynamics, and organizational structures all change simultaneously.

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The purpose of this paper is to show that digital business transformation is primarily a human and organizational challenge. The paper integrates Rogers' roadmap with Kotter's change leadership framework, Senge's learning-organization perspective, and Vaz's emphasis on continuous learning and unlearning. To complement this theoretical foundation, it also uses an exploratory descriptive analysis of assignment-based data from experienced master's students to identify recurring organizational themes related to digital transformation failure, experimentation, strategic vision, and idea evaluation. The empirical material is used as a bounded descriptive supplement rather than as a basis for broad statistical generalization.

2 Theoretical Framework: Integrating Change Leadership with Digital Transformation

Rogers (2023) proposes a five-step digital transformation roadmap: define shared vision, pick problems that matter, validate new ventures, manage growth at scale, and grow technology, talent, and culture. This roadmap is valuable because it connects strategy with execution. At the same time, it assumes organizational conditions that must be created deliberately through leadership and culture.

Kotter's (2012) change leadership framework explains how these conditions emerge. His work emphasizes urgency, guiding coalitions, communication of vision, empowerment, short-term wins, consolidation, and cultural anchoring. For digital transformation, Rogers clarifies what should be changed, while Kotter explains how change should be led.

Senge (1990) adds a third dimension by showing that sustainable change requires learning capability. A learning organization is built on systems thinking, personal mastery, mental models, shared vision, and team learning. Vaz (2021) extends this logic to digital environments by emphasizing that established organizations must develop the capacity to learn, unlearn, and relearn continuously.

The human and organizational dimensions that these frameworks address are what distinguish transformation successes from failures. Technology is necessary but insufficient. This conclusion is also consistent with evidence from the HRM domain, where digital transformation effectiveness depends not only on technology adoption but also on the human capacity to interpret, adapt, and act upon digital opportunities (Aškerc Zadavec, Weis & Gorenc, 2025). Transformation success therefore requires leaders who establish urgency and clear vision, build coalitions with psychological safety enabling action, empower experimentation and learning, and cultivate cultures where continuous learning and intellectual humility are normalized.

This interpretation is also consistent with Vial's (2019) review, which conceptualizes digital transformation as a process in which digital technologies create disruptions that trigger strategic responses, while outcomes depend on how organizations manage structural changes and organizational barriers.

Taken together, these perspectives provide the conceptual lens for the exploratory empirical supplement presented in the next section. Table 1 summarizes how the four authors contribute to this integrated perspective.

Table 1. *Integrated contribution of the four frameworks to digital business transformation*

Framework / author	Primary focus	Contribution to DX as a human and organizational challenge
Rogers (2023)	Transformation roadmap and strategic sequencing	Defines the transformation agenda and links strategy with execution across vision, validation, scaling, and capability growth.

Kotter (2012)	Change leadership and mobilization	Explains how urgency, coalitions, communication, and short-term wins translate transformation intent into coordinated organizational action.
Senge (1990)	Learning organization capability	Shows that sustainable change depends on systems thinking, shared vision, team learning, and the ability to challenge entrenched mental models.
Vaz (2021)	Continuous learning, unlearning, and relearning	Highlights the cultural and behavioral conditions required for established firms to remain adaptive in digitally turbulent environments.

3 Method

3.1 Research design and setting

This study combines a conceptual synthesis with an exploratory descriptive analysis of course-based empirical material. The conceptual part integrates the digital transformation perspectives of Rogers, Kotter, Senge, and Vaz in order to explain why transformation success depends on leadership, learning, and organizational alignment as much as on technology choices. The empirical part complements this synthesis with descriptive evidence from four structured course-based analytical tasks completed within a master's-level course.

The purpose of the empirical component is not to test causality or to validate the framework statistically. Rather, it is used to identify recurring perceptions that can illustrate whether the organizational themes emphasized in the literature also appear in the reflections of participants with substantial professional experience.

3.2 Participants

The participants were master's-level students with substantial professional experience. The available single-response items indicate a cohort size in the mid-thirties (35 students), while higher totals in some questions reflect multiple-response formats. The responses were collected in October and November 2025. This profile is important because the respondents were not full-time students without practice; they were experienced adult learners able to reflect on transformation challenges from both academic and workplace perspectives.

The sample should nevertheless be understood as a convenience sample from an educational setting rather than as a representative population of managers or firms.

3.3 Instrument and procedure

The empirical material consisted of four course-based analytical tasks, each containing two to three structured questions. The assignments addressed perceived reasons for digital transformation failure, barriers to innovating outside the core business, properties and limitations of strategic vision, symptoms of successful experimentation, critical questions for evaluating new ideas, signals for abandoning projects, and the business value of a solution.

Responses were aggregated into thematic categories and summarized in frequency counts. Some items required one response, whereas others allowed multiple selections or asked respondents to identify the two most important options. As a result, total coded responses vary across questions.

3.4 Data analysis

The analysis relied on descriptive statistics only, primarily frequencies and percentages. For single-response items, the totals approximate the number of participants who answered the question. For multiple-response items, percentages represent the share of total coded responses within a question rather than the share of individual participants.

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The descriptive findings were then compared with the conceptual framework to assess whether the participant responses were consistent with the proposed emphasis on shared vision, psychological safety, problem validation, learning capability, and structural alignment.

3.5 Limitations of the empirical component

The empirical component is presented in Table 2 and has several limitations. The sample was non-random and drawn from one educational context. The findings therefore cannot be generalized to all organizations, sectors, or leadership teams.

In addition, the data derive from structured assignment responses and descriptive aggregation rather than validated psychometric instruments or inferential testing. For this reason, the empirical material should be interpreted as a bounded descriptive supplement to the theoretical argument.

Table 2. Overview of the empirical component used as a descriptive supplement

Course-based task	Main question focus	Response format	Dominant themes
Task 1	DX failure reasons; two most important failure causes	Multiple response and forced-choice priority selection	Fear of experimenting; absence of shared vision; capability gaps
Task 2	Innovation outside the core business; properties and limits of vision	Single-response categorical items	Silos; core-business resource lock-in; legal and ownership constraints
Task 3	Bad decisions without vision; experimentation success; idea evaluation	Single and multiple-response categorical items	Technology hype; disconnected goals; customer signals; parallel testing; safe-to-fail conditions; customer/problem definition
Task 4	Most important added value of a solution	Single-response categorical item	Savings; risk reduction; new revenue

4 Exploratory Descriptive Findings

The descriptive findings reveal a pattern that aligns closely with the literature reviewed above. In Task 1, fear of experimenting was the most frequently cited reason for digital transformation failure (46.2%). When participants were asked to identify the two most important failure reasons, the most common responses were absence of shared vision (30.0%) and lack of capability upgrade (28.6%). These patterns place organizational clarity, learning, and willingness to experiment ahead of technology itself as perceived determinants of failure.

Task 2 focused on innovation outside the core business and on strategic vision. Organizational silos were the most frequently cited barrier to innovation outside the core business (35.9%), followed by resource dedication to the core business only (20.5%). When participants described the properties of vision, the strongest emphasis was placed on connectivity with vision (51.4%), ahead of inspiration (28.6%). They also identified legal environment (38.9%) and ownership structure (30.6%) as major constraints on feasible vision. Together, these findings suggest that vision is valued not only as a motivational statement, but as an integrative device shaped by structural realities.

Task 3 further reinforced the business-led and learning-oriented character of the responses. The most common bad decision associated with poor understanding of vision was following technology hype (38.0%), while disconnected departmental goals ranked second (24.0%). Successful experimentation was associated most strongly with decisions based on customer signals (26.3%), parallel testing of multiple ideas (23.2%), and safe-to-fail conditions

in which failure is not expensive (21.2%). In the evaluation of new ideas, the two most frequent questions were “Who is my client?” (21.0%) and “Are we solving the right problem?” (18.1%).

Task 4 asked about the most important added value of a solution. The dominant response was savings (48.6%), followed by risk reduction (22.9%) and new revenue (14.3%). Although this question is less central to the present framework, it still indicates that participants associated successful digital initiatives with concrete business value rather than with novelty for its own sake. Table 3 summarizes the key descriptive findings across the four course-based tasks.

Table 3. *Descriptive findings across the four course-based tasks*

Tasks	Main focus	Key descriptive findings
Task 1	DX failure reasons	Fear of experimenting was the most frequently cited failure reason (46.2%).
Task 2	Innovation outside the core business; strategic vision	Organizational silos were the most frequently cited barrier to innovation outside the core business (35.9%). Vision was associated primarily with connectivity/coherence (51.4%).
Task 3	Vision-related decisions; experimentation; idea evaluation	Following technology hype (38.0%). In idea evaluation, the most frequent question was “Who is my client?” (21.0%).
Task 4	Added value of a solution	The dominant response was savings (48.6%).

When we rearrange the findings from a perspective of five critical success factors, these descriptive findings show that the participants repeatedly emphasized strategic coherence, experimentation, customer problem definition, learning, and structural conditions. These recurring themes are consistent with the argument that digital business transformation is primarily a human and organizational challenge. Summary of findings is presented in Table 4.

Table 4. *Five critical success factors and indicative descriptive findings*

Critical success factor	Theoretical meaning	Indicative descriptive findings
Shared vision and strategic coherence	A coherent transformation direction that connects units, priorities, and decisions.	No shared vision (30.0%); vision connectivity/coherence (51.4%); following technology hype without clear direction (38.0%).
Psychological safety and coalition action	Conditions in which people can experiment, question assumptions, and act across boundaries.	Fear of experimenting (46.2%); successful experimentation linked to safe-to-fail conditions (21.2%); silos highlighted as a barrier (35.9%).
Problem validation before solution building	Clarifying customer, problem, and value logic before scaling solutions.	Most frequent evaluation questions were “Who is my client?” (21.0%) and “Are we solving the right problem?” (18.1%).
Learning organization capability	Evidence-based adaptation through experimentation, feedback, and revision of assumptions.	Successful experimentation linked to customer signals (26.3%), parallel testing (23.2%), and flexible problem solving (14.1%).
Structural alignment and cultural anchoring	Governance, resources, and culture aligned with the transformation direction.	Resource dedication to core business (20.5%), legal environment (38.9%), and ownership structure (30.6%) shaped perceived feasibility.

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5 Discussion: Five Critical Success Factors for Digital Business Transformation

Against this background, the discussion highlights five critical success factors for digital business transformation. Each factor is conceptually grounded in the literature and descriptively supported by recurring response patterns in the empirical material.

5.1 Shared vision and strategic coherence

The first critical factor is shared vision supported by strategic coherence. Kotter (2012) highlights the importance of urgency and communicated direction, while Rogers (2023) emphasizes the need for a transformation vision grounded in future developments and the organization's right to win. The descriptive findings reinforce this point. Participants most frequently identified absence of shared vision as a central cause of failure and described connectivity or coherence as the most important property of vision.

This suggests that vision should not be treated as a symbolic statement alone. Its practical function is to align priorities, interpret external change, and connect departmental activity to a common transformation direction. When this coherence is missing, organizations become more vulnerable to hype-driven projects, duplicated initiatives, and conflicting priorities.

5.2 Psychological safety and coalition action

The second factor is psychological safety enabling coalition action. Kotter's notion of a guiding coalition explains why transformation must be carried by actors with credibility across organizational boundaries. Yet such coalitions are unlikely to emerge if people perceive experimentation as dangerous or career threatening.

The empirical material is highly consistent with this interpretation. Fear of experimenting was the most frequently cited failure reason, and successful experimentation was associated with safe-to-fail conditions. These patterns suggest that coalition building is not only a matter of formal leadership alignment, but also of creating environments in which people can report weak results honestly, question assumptions, and act across silos without punitive consequences.

5.3 Problem validation before solution building

The third factor is disciplined problem validation before solution building. Rogers' staged validation logic points in this direction, but the descriptive findings sharpen the point further: participants consistently prioritized identifying the customer and clarifying the right problem before considering other business or technical questions.

This emphasis is important because digital transformation initiatives often begin with enthusiasm for tools or platforms rather than with validated customer problems. The finding that technology hype was the most frequent example of a bad decision further supports the need to begin with problem definition, customer relevance, and value logic rather than with premature solution design.

5.4 Learning organization capability

The fourth factor is learning organization capability. Senge (1990) provides the broad conceptual foundation, while Vaz (2021) translates it into a digital context by emphasizing learning, unlearning, and relearning. The descriptive findings mirror this logic in practical terms: participants associated successful experimentation with customer signals, parallel testing, safe failure, and flexible adaptation.

These patterns point to a specific organizational capability rather than to isolated tactics. Learning organizations do not simply collect information; they embed routines for testing

assumptions, interpreting feedback, revising direction, and abandoning weak ideas. This capability becomes especially important after initial pilots, when sustained transformation depends on continuous adjustment rather than on a single implementation event.

5.5 Structural alignment and cultural anchoring

The fifth factor is structural alignment anchored in culture. The literature makes clear that transformation fails when governance, incentives, resource allocation, and capability-building remain tied to the logic of the legacy business. This point is reinforced by review-based evidence showing that digital transformation reshapes firms across multiple organizational layers and that transformation success depends in part on how firms manage structural redesign, boundary changes, and tensions between centralization and decentralization (Plekhanov, Franke & Netland, 2022). The assignment-based findings are consistent with this view: participants emphasized silos, core-business resource concentration, legal constraints, and ownership structures as factors that shape what organizations can realistically do.

This factor links structural design with cultural change. Structures determine whether collaboration, experimentation, and investment are possible in practice, while culture determines whether people accept, normalize, and sustain the new way of working. For this reason, structural reform and cultural anchoring should be treated as mutually reinforcing rather than as separate streams of work.

6 Implications for Organizational Leaders

For organizational leaders, the central implication is that digital transformation should be governed as a business and organizational change process rather than as a sequence of technology projects. Table 5 summarizes the main leadership priorities emerging from the combined theoretical and descriptive analysis.

Table 5. *Leadership implications for digital business transformation*

Leadership priority	What leaders should do	Expected organizational effect
Create strategic coherence	Communicate why change is necessary, define a realistic transformation direction, and connect every major unit to that direction.	Higher alignment, fewer disconnected projects, and better decision consistency.
Build safe-to-act coalitions	Form coalitions across formal and informal leadership networks and legitimize experimentation without punitive reactions to failure.	Greater initiative, honest reporting, and stronger cross-functional collaboration.
Validate real problems	Invest in customer and stakeholder research before committing to solution design or scaling decisions.	Better resource allocation and lower risk of expensive but irrelevant initiatives.
Institutionalize learning	Use post-mortems, decision reviews, experimentation routines, and evidence-based governance.	Faster adaptation and stronger capacity to adjust when assumptions prove incorrect.
Remove structural barriers	Redesign governance, funding, incentives, and capability development to ensure transformation work is protected from core business pressures.	Improved execution capacity and greater durability of change.
Anchor change in culture	Reinforce desired behaviors through hiring, promotion, evaluation, and leadership role-modeling.	Transformation becomes part of organizational identity rather than a temporary program.

7 Conclusions

This paper shows that digital business transformation is primarily a human and organizational challenge, not a technological one. The conceptual synthesis indicates that transformation success depends on shared vision, change leadership, learning capability, and structural alignment. The exploratory descriptive evidence from assignment-based data points in the same direction by repeatedly highlighting fear of experimentation, lack of shared vision, silos, customer-problem definition, and the need for safe learning conditions.

The contribution of the paper lies in combining a theoretical framework with a clearly bounded empirical supplement. Rather than presenting the descriptive statistics as generalizable proof, the paper uses them to illustrate how experienced master's-level participants interpret recurrent transformation problems. This strengthens the paper methodologically by making the empirical basis transparent and proportionate to the claims being made.

For practice, the message is direct. Organizations that invest in strategic coherence, psychological safety, disciplined problem validation, learning capability, and structural alignment will be better positioned to achieve sustained digital transformation. Future research should test the proposed framework in broader organizational samples and with more formal empirical designs.

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