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The Role of Digital Transformation Speed in Enhancing Productivity: A Mediated Framework with Operational Efficiency in Financial Shared Service

Abstract: - This conceptual paper examines the impact of digital transformation speed on Total Factor Productivity (TFP), with operational efficiency as a mediator, within the context of Financial Shared Services (FSS). Drawing on Dynamic Capabilities Theory and the Resource-Based View (RBV), this study highlights the critical role of transformation speed in enhancing productivity while emphasizing the importance of operational efficiency as a pathway to achieving these gains. The proposed framework provides theoretical advancements by addressing the underexplored temporal dimension of digital transformation and its nuanced effects on productivity outcomes. Practically, it offers actionable insights for organizations seeking to balance the urgency of transformation with operational readiness to ensure sustainable productivity improvements. The framework situates FSS as a valuable context, illustrating how centralized financial operations amplify the benefits of rapid digital transformation. As a conceptual study, this paper acknowledges limitations related to empirical validation and encourages future research to test the framework across diverse industries and organizational contexts. By bridging gaps in literature and offering practical guidance, this study advances the understanding of digital transformation's strategic and operational implications.

Keywords: Digital Transformation Speed, Total Factor Productivity (TFP). Operational Efficiency. Financial Shared Services (FSS)

Introduction

In an era marked by rapid technological advancements, digital transformation has become a cornerstone of modern business strategy. Organizations are increasingly leveraging technologies such as artificial intelligence, big data analytics, blockchain, and cloud computing to reimagine their operational models and gain competitive advantages. Digital transformation not only enhances operational efficiency but also drives innovation, streamlines processes, and enables firms to adapt to dynamic market demands (Bresciani et al., 2021). However, while the importance of digital transformation is widely recognized, the speed of its implementation introduces both opportunities and challenges that remain underexplored. Faster adoption of digital initiatives can unlock new market opportunities, improve responsiveness to customer needs, and establish competitive advantages (Hui et al., 2022). Yet, this accelerated pace may also pose risks, including process inefficiencies, integration failures, and workforce resistance to change, which can compromise long-term productivity and sustainability (Ayoko, 2021).

The speed of digital transformation is increasingly seen as a critical determinant of its success, yet it presents a complex trade-off for firms. On one hand, rapid transformation allows businesses to capitalize on first-mover advantages and adapt to technological disruptions more effectively (Zeng & Lei, 2021). On the other hand, rushing the implementation process can lead to suboptimal outcomes, including fragmented systems,

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overburdened employees, and increased operational risks (Moreira & Ferreira, 2023). The relationship between transformation speed and firm performance remains a nuanced area, as it necessitates balancing the urgency of change with the need for thoughtful planning and execution (Wu et al., 2023). Total Factor Productivity (TFP), which measures the efficiency with which all inputs are utilized to produce outputs, serves as an ideal metric to capture the multifaceted impacts of digital transformation speed on organizational performance. However, despite its significance, research on the interplay between transformation speed and TFP is scarce, leaving a gap in understanding how organizations can optimize digital initiatives for sustainable productivity gains (Li & Tian, 2023).

Financial Shared Services (FSS) provide a unique setting to examine the dynamics of digital transformation speed and its impact on TFP. FSS centralizes financial processes, such as accounts payable, accounts receivable, payroll, and reporting, into a single, standardized framework supported by advanced digital tools (Ayuandiani et al., 2023). By integrating financial operations across business units, FSS reduces redundancies, improves process efficiency, and enhances decision-making through real-time data insights (Teng et al., 2022). The centralized nature of FSS makes it an ideal environment to observe how operational efficiency mediates the relationship between digital transformation speed and TFP. This context allows for a deeper understanding of how firms can optimize financial operations while addressing challenges associated with accelerated transformation (Rohmah & Komarudin, 2023). While existing studies highlight the contributions of FSS to cost reduction, process optimization, and decision-making, limited attention has been paid to the role of operational efficiency as a mediator in the relationship between transformation speed and productivity outcomes (Bresciani et al., 2021). Additionally, the risks associated with rapid adoption—such as misaligned processes, integration issues, and reduced employee engagement—are often overlooked (Moreira & Ferreira, 2023). Understanding these dynamics is essential for firms seeking to maximize productivity gains through digital transformation.

This paper seeks to address these gaps by examining the impact of digital transformation speed on TFP, with operational efficiency as a mediator, in the unique context of FSS. By exploring the opportunities and challenges posed by varying transformation speeds, the study provides actionable insights for managers aiming to balance the urgency of transformation with the need for operational alignment. This research not only contributes to the academic discourse but also offers practical guidance for navigating the complexities of digital transformation in centralized financial operations.

Ultimately, this study bridges the gap between theory and practice, offering a conceptual framework that connects transformation speed, operational efficiency, and productivity outcomes. It emphasizes the importance of adopting a balanced approach to digital transformation that aligns technological advancements with organizational readiness. By situating the analysis in the FSS context, this paper delivers valuable insights for both academics and practitioners, advancing the understanding of digital transformation's strategic and operational implications.

Literature Review

Digital Transformation

Digital transformation (DT) is a comprehensive process of integrating digital technologies across organizational structures, processes, and cultures to enhance value creation, operational efficiency, and competitiveness. Its primary components include technology adoption, process redesign, and organizational change management. The adoption of technologies like artificial intelligence, cloud computing, and big data analytics modernizes workflows and decision-making capabilities. Process redesign rethinks traditional workflows to align with digitization, and cultural shifts promote agility and innovation as firms adapt to the fast-changing digital

landscape (Vial, 2019).

While the scope and scale of DT are extensively studied, the speed of transformation has gained prominence as a crucial determinant of success. Transformation speed pertains to how rapidly firms implement and scale digital initiatives across the organization. Unlike scope (breadth of technologies adopted) or scale (depth of integration), speed focuses on the timeliness of these efforts to capture competitive advantages and respond to market dynamics (Hanelt et al., 2020). Research indicates that rapid transformation can drive early-mover benefits, enhance operational agility, and improve customer experiences. However, high-speed transformations are also associated with increased risks, including implementation errors, misalignment with organizational capacity, and resistance from employees (Casciani et al., 2022).

The benefits of DT include efficiency gains, cost reductions, enhanced customer engagement, and better insights for decision-making, which contribute to a firm's overall competitiveness (Feroz et al., 2021). However, firms face challenges such as cybersecurity vulnerabilities, the high cost of technology investments, and the need for skilled talent to manage and implement digital solutions (Veroba & Azmi, 2021). An accelerated pace of transformation further exacerbates these challenges, necessitating strategic planning and change management to align digital initiatives with organizational goals and workforce readiness.

Total Factor Productivity (TFP)

Total Factor Productivity (TFP) is a widely accepted measure of a firm's productivity that accounts for efficiency gains not solely attributed to labor and capital. TFP reflects how effectively firms utilize technology, innovation, and management practices to optimize output. It is considered a key driver of economic growth and competitiveness, especially in technology-intensive industries (Syverson, 2011).

Several factors influence TFP, including the adoption of advanced technologies, managerial practices, institutional frameworks, and market conditions. For instance, the integration of digital tools such as automation and analytics enhances resource utilization and operational efficiency, leading to TFP gains. Research also highlights the importance of management quality in fostering innovation and aligning technological investments with organizational goals (Brynjolfsson & Hitt, 2003).

Digital transformation plays a pivotal role in shaping TFP. By streamlining operations, reducing waste, and enabling real-time data-driven decisions, DT can significantly enhance productivity. However, the speed of digital adoption introduces complexities. While rapid transformations can accelerate benefits, they may also lead to disruptions if systems and employees are not adequately prepared. Striking a balance between transformation speed and organizational readiness is critical to maximizing TFP gains (Casciani et al., 2022).

Operational Efficiency

Operational efficiency—the ability to optimize resource use and minimize waste—is a critical outcome of digital transformation (DT). Technologies like robotic process automation (RPA), advanced analytics, and cloud computing streamline workflows, reduce redundancies, and improve decision-making processes. In financial shared services (FSS), operational efficiency is particularly impactful due to the repetitive nature of tasks. For example, RPA automates activities like invoice processing, reducing time and errors, while cloud platforms enhance collaboration and real-time data access, further driving efficiency gains (Herbert & Seal, 2012). As a mediator, operational efficiency links DT speed with total factor productivity (TFP). Rapid DT accelerates technology adoption, yielding immediate efficiency improvements. However, mismatched speed and readiness may cause disruptions or inefficiencies (Vial, 2019). Efficiency, in turn, drives TFP by optimizing inputs and increasing outputs. In FSS, streamlined processes improve accuracy and decision-making, translating DT gains

into measurable productivity (Syverson, 2011).

The Role of Financial Shared Services

Financial shared services (FSS) are centralized organizational units that manage financial processes, including accounts payable, receivables, and financial reporting, to drive standardization, efficiency, and cost reduction. These centers leverage economies of scale and advanced digital tools, such as robotic process automation (RPA) and machine learning, to enhance operational performance and strategic decision-making (Herbert & Seal, 2012).

The speed of digital transformation within FSS significantly impacts their effectiveness. Rapid adoption of technologies like cloud-based platforms and automated auditing tools can improve reporting accuracy, enable predictive analytics, and enhance compliance. However, accelerated transformations also present challenges, such as inadequate employee training, system integration issues, and potential disruptions to financial workflows. A structured approach to transformation—balancing speed with readiness—can help mitigate these risks while enabling FSS to realize productivity and efficiency gains (Quinn et al., 2000).

In addition, FSS units play a strategic role in supporting firm-wide TFP improvements. By centralizing and automating routine financial tasks, they allow firms to reallocate resources toward value-adding activities, such as innovation and market expansion. As FSS units increasingly rely on digital tools, their ability to adapt to the speed of technological change becomes critical to sustaining their contribution to organizational productivity.

Research Gap

Existing research on digital transformation (DT) has largely focused on its scope and scale, emphasizing the breadth of technologies adopted and the depth of integration across organizations. However, the speed of transformation—a critical factor that determines how quickly firms can adapt to technological changes and competitive pressures—remains underexplored. Transformation speed is particularly relevant for shared service environments like Financial Shared Services (FSS), where the rapid adoption of digital tools directly influences operational efficiency and service quality. Studies often fail to address how transformation speed uniquely shapes productivity outcomes in these centralized and digitally reliant units. This gap underscores the importance of investigating the temporal dynamics of digitalization, particularly in domains where speed might amplify both opportunities and risks.

Research on FSS is notably limited, especially regarding its interaction with DT and productivity outcomes. While shared services have been studied in the context of standardization and cost reduction, the specific role of digital technologies and the impact of their implementation speed on performance outcomes are underexamined. Existing literature often focuses on broader organizational contexts or specific digital tools, such as robotic process automation (RPA) or cloud computing, without connecting these advancements to the unique challenges and opportunities within FSS. Moreover, there is insufficient attention given to the strategic importance of FSS in enabling enterprise-wide productivity gains. This lack of domain-specific analysis makes it difficult to generalize insights from broader DT research to FSS, highlighting the need for studies that situate these dynamics within the financial shared services context.

Another critical gap lies in the measurement of productivity outcomes from DT initiatives. While operational efficiency and cost savings are frequently highlighted as benefits, there is limited exploration of how DT impacts Total Factor Productivity (TFP), a comprehensive measure that captures efficiency gains beyond labor and capital inputs. TFP provides a more nuanced understanding of how effectively firms utilize resources, including technological innovations and managerial capabilities, to create value. However, the link between DT

speed and TFP remains largely unexamined, particularly in FSS. This is surprising given the potential of digital transformation to streamline financial processes, enhance data-driven decision-making, and reduce redundancies—all of which are critical for improving TFP. Addressing this gap could offer valuable insights into how firms can optimize the pace of transformation to maximize productivity gains.

From a conceptual perspective, the focus on transformation speed and TFP in FSS aligns well with the objectives of this paper. Financial shared services, as highly digitalized and standardized environments, provide an ideal context to study the implications of DT speed. Rapid adoption of technologies such as advanced analytics, AI, and automation can significantly enhance productivity by enabling real-time financial insights and reducing processing times. However, this speed can also pose challenges, including employee resistance, system integration issues, and disruptions in critical financial workflows. By examining how transformation speed interacts with these dynamics, this paper seeks to fill a critical gap in the literature, offering a more holistic understanding of the trade-offs and strategies required for successful digital transformation in FSS.

Furthermore, the proposed focus on TFP as an outcome measure bridges the theoretical and practical dimensions of DT research. Existing studies on productivity often fail to connect the efficiency gains from digitalization to broader measures of organizational performance like TFP. This paper addresses that gap by conceptualizing a framework that links transformation speed to TFP within the context of FSS. Such an approach not only provides theoretical clarity but also offers actionable insights for managers seeking to optimize digital transformation efforts. By situating the analysis within the financial shared services domain, this research advances a nuanced understanding of DT's productivity impacts, particularly in environments where centralized and technology-driven operations are critical.

In summary, the gaps in existing research—namely, the lack of focus on transformation speed, the limited attention to FSS, and the insufficient connection between DT and TFP—highlight the relevance and necessity of this paper's conceptual focus. By addressing these gaps, the paper aims to contribute a robust theoretical and practical framework for understanding how digital transformation speed influences total factor productivity in financial shared services. This contribution not only fills a void in the literature but also equips organizations with insights to navigate the complexities of digital transformation in a rapidly evolving business landscape.

Hypothesis Development

Digital transformation (DT) is a cornerstone of organizational innovation and process optimization. The speed at which firms adopt and scale digital technologies significantly influences their ability to enhance productivity, adapt to market changes, and capitalize on competitive advantages. In the context of Financial Shared Services (FSS), where processes are highly standardized and reliant on advanced digital tools, the pace of transformation is particularly critical. Rapid transformation enables the streamlining of operations and real-time decision-making, ultimately contributing to Total Factor Productivity (TFP). However, accelerated transformation can also pose risks, such as integration challenges or workforce resistance, which must be managed to fully realize productivity gains.

H1: *Digital transformation speed has a positive impact on Total Factor Productivity (TFP) in the financial shared service context.*

Operational efficiency plays a pivotal role in linking digital transformation speed to TFP. In FSS, where routine financial tasks like accounts payable and reporting are centralized, operational efficiency becomes a critical outcome of digital transformation. By automating repetitive processes, reducing redundancies, and improving accuracy, firms can achieve significant efficiency gains. These improvements not only enhance decision-making capabilities but also allow for better resource allocation, driving overall productivity. Operational efficiency thus

serves as a mechanism through which the benefits of transformation speed are translated into measurable TFP outcomes. However, if the speed of digital transformation exceeds the organization's readiness, disruptions in workflows may hinder these gains.

H2: *Operational efficiency mediates the relationship between digital transformation speed and TFP in the financial shared service context.*

Operational efficiency is a critical determinant of productivity, especially in the structured and technology-driven environment of FSS. By optimizing resource utilization and minimizing waste, operational efficiency enhances a firm's ability to achieve higher output with the same or fewer inputs. In the FSS context, operational efficiency is further amplified through technologies like robotic process automation (RPA) and cloud computing, which reduce errors and streamline workflows. Improved operational efficiency supports firm-wide strategic goals, contributing directly to higher TFP by aligning processes with organizational objectives and market demands.

H3: *Operational efficiency has a positive impact on Total Factor Productivity (TFP) in the financial shared service context.*

Underpinning Theories

To explore the relationships between digital transformation speed, operational efficiency, and Total Factor Productivity (TFP) in the context of Financial Shared Services (FSS), this study draws on Dynamic Capabilities Theory and the Resource-Based View (RBV). These theories provide a robust foundation for understanding how firms can leverage technological advancements and process optimization to achieve productivity gains.

Dynamic Capabilities Theory

Dynamic Capabilities Theory emphasizes an organization's ability to integrate, build, and reconfigure internal and external competencies to adapt to rapidly changing environments (Teece et al., 1997). Dynamic Capabilities Theory (DCT) has emerged as a central framework in strategic management, providing insights into how organizations adapt to changing environments by reconfiguring their resources and competencies. Introduced by Teece, Pisano, and Shuen, DCT emphasizes the importance of three core processes: sensing opportunities, seizing opportunities, and transforming resources to maintain competitive advantage (Teece, 2014). These processes collectively enable firms to navigate market volatility and leverage innovation effectively.

The theory has been widely applied across industries to address organizational agility and adaptability. Studies highlight the role of dynamic capabilities in fostering innovation, improving operational efficiency, and driving business model transformations (Leemann & Kanbach, 2021). The triadic model of sensing, seizing, and transforming is critical for firms operating in fast-evolving sectors such as technology, where agility and learning are paramount (Zollo & Winter, 2002). Dynamic capabilities are underpinned by organizational processes, such as knowledge codification and experience accumulation, which strengthen a firm's ability to adapt. These mechanisms integrate both internal and external knowledge to develop competitive strategies (Barreto, 2010). Moreover, frameworks such as ambidexterity and absorptive capacity have been integrated with DCT to address the complexity of organizational change in diverse contexts (Sunder et al., 2019).

In the context of digital transformation, dynamic capabilities manifest as a firm's capacity to adopt and scale advanced technologies efficiently. This theory is particularly relevant to the concept of digital transformation speed, as it highlights the need for agility in responding to technological and market disruptions. Firms that can swiftly deploy digital tools and processes, such as those in FSS, exhibit superior dynamic capabilities, enabling them to capitalize on new opportunities, optimize resource allocation, and enhance TFP. Warner and Wäger

(2019) further argue that digital transformation is a strategic exercise in dynamic capability development, allowing firms to reconfigure their processes and innovate more effectively.

Building on this, dynamic capabilities also underpin the role of operational efficiency as a mediator between digital transformation speed and TFP. Operational efficiency reflects a firm's ability to reconfigure processes and integrate advanced tools to reduce redundancies and improve accuracy, particularly in technology-driven environments like FSS. For example, rapid adoption of technologies such as robotic process automation (RPA) or cloud computing allows firms to streamline workflows and achieve measurable efficiency gains. Eisenhardt and Martin (2000) assert that operational efficiency is a tangible outcome of dynamic capabilities, serving as the mechanism through which technological advancements are translated into productivity improvements. Thus, this theory supports the proposition that operational efficiency mediates the relationship between transformation speed and TFP.

Resource-Based View (RBV)

Complementing the Dynamic Capabilities Theory, the Resource-Based View (RBV) provides an additional lens to understand how firms achieve productivity improvements. RBV emphasizes the strategic value of resources that are valuable, rare, inimitable, and non-substitutable (VRIN) (Barney, 1991). The Resource-Based View (RBV) is a foundational theory in strategic management, emphasizing that a firm's competitive advantage stems from its unique resources and capabilities. Originally formalized by Barney, RBV identifies resources as valuable, rare, inimitable, and non-substitutable (VRIN), enabling firms to sustain superior performance over time (Kraaijenbrink et al., 2009). RBV's applications have expanded across various domains, including international business and innovation. In international business, it underpins strategies for market entry, alliances, and global operations by leveraging firm-specific resources (Peng, 2001). In innovation management, RBV highlights how firms harness knowledge-based and technological assets to create competitive advantages (Sabourin, 2020). Empirical studies reveal RBV's utility in explaining heterogeneity among firms, particularly through resource integration and capability development (Armstrong & Shimizu, 2007). Moreover, the integration of dynamic capabilities with RBV addresses its limitations by introducing a temporal perspective to explain how firms adapt to changing environments (Kero & Bogale, 2023). Although widely influential, RBV faces critiques for vague definitions of "resources" and challenges in operationalizing its concepts. Recent studies recommend integrating RBV with complementary theories, such as the knowledge-based view and institutional perspectives, to enhance its explanatory power and relevance (Pereira & Bamel, 2021).

In the FSS context, digital tools and operational efficiency represent strategic resources that contribute to competitive advantage. Rapid digital transformation, as seen in FSS, reflects the ability to deploy and utilize these resources effectively. Mata et al. (1995) highlight IT resources as key drivers of sustained performance, aligning with the notion that the speed of transformation enables firms to unlock the potential of advanced technologies, improve decision-making, and enhance TFP. RBV also underscores the direct relationship between operational efficiency and TFP, emphasizing the importance of resource optimization. In centralized environments like FSS, operational efficiency involves maximizing the value of digital tools and minimizing waste through standardized processes. For instance, cloud-based platforms and advanced analytics enable FSS units to achieve real-time data accuracy and faster decision-making, directly contributing to productivity gains. Barney and Hesterly (2006) expand on this, suggesting that resource optimization is a critical determinant of firm productivity, supporting the hypothesis that operational efficiency has a positive impact on TFP.

Together, these theories provide a cohesive framework for understanding the relationships in this study. Dynamic Capabilities Theory explains how firms adapt and reconfigure their processes to drive productivity,

emphasizing the critical role of transformation speed and operational efficiency. Resource-Based View complements this by highlighting the strategic importance of digital tools and efficiency as valuable resources for achieving sustained productivity improvements. By integrating these perspectives, this study provides a comprehensive theoretical foundation for examining the impact of digital transformation speed on TFP with operational efficiency as a mediator, within the unique context of Financial Shared Services.

Theoretical Framework

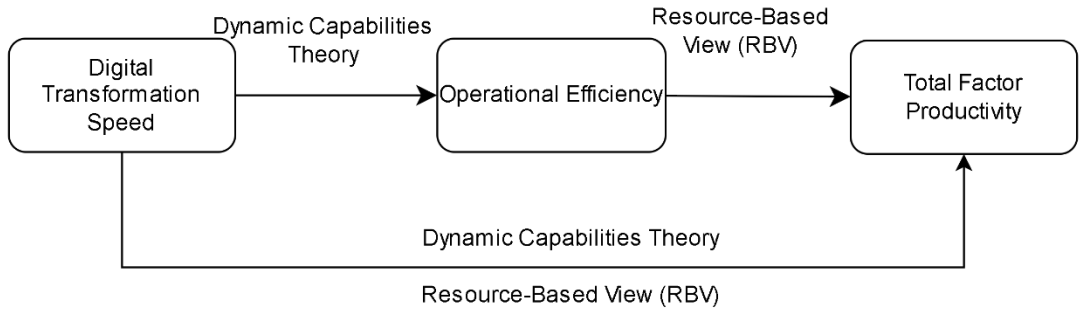

Figure 1: Theoretical Framework

Methodology

This study employs a quantitative research design to examine the impact of digital transformation speed on Total Factor Productivity (TFP), with operational efficiency as a mediator, in the context of Financial Shared Services (FSS). Data will be collected from secondary sources such as annual reports, financial disclosures, and industry databases, as well as through structured surveys targeting organizations utilizing FSS. The sample will consist of firms from various industries that have implemented FSS and undergone digital transformation initiatives. The study will use financial performance data to measure TFP, focusing on metrics that capture productivity gains beyond traditional inputs like labor and capital. Digital transformation speed will be assessed based on the time taken to implement and scale digital technologies within FSS operations, while operational efficiency will be evaluated through indicators such as process cycle times and cost reductions. Structural equation modeling (SEM) will be used to analyze the data and test the hypothesized relationships and mediation effects, allowing for a comprehensive examination of both direct and indirect impacts. The FSS context provides a standardized and technology-driven environment, ensuring consistency and relevance of the findings for understanding how transformation speed influences productivity outcomes through operational efficiency.

The sample for this study consists of organizations that utilize FSS as part of their financial operations and have implemented digital transformation initiatives. Medium to large enterprises across various industries will be included, as these are more likely to have established FSS units and undertaken measurable digital transformation efforts. A purposive sampling technique will be employed to ensure the selection of organizations that meet specific inclusion criteria, including having centralized FSS units, measurable digital transformation efforts in the past five years, and accessible data through public records or survey participation. A structured survey questionnaire will be used as the primary instrument for data collection, capturing perceptions of transformation speed and efficiency improvements through Likert-scale items. Quantitative data on TFP will also be gathered from organizational records, financial disclosures, and annual reports to complement the survey findings and provide a robust basis for analysis.

This conceptual paper provides a robust framework for understanding the impact of digital transformation speed on Total Factor Productivity (TFP), with operational efficiency as a mediator, in the context of Financial Shared Services (FSS). By integrating insights from Dynamic Capabilities Theory and the Resource-Based View (RBV), this study highlights the critical interplay between organizational agility, resource optimization, and productivity outcomes. The proposed framework is valuable for both theoretical advancements and practical applications, addressing significant gaps in existing literature.

Discussion

Theoretical Implications

The framework offers important theoretical contributions by expanding the discourse on digital transformation, particularly in the underexplored area of transformation speed. While existing studies have focused on the scope and scale of digital transformation, this paper shifts attention to the temporal dimension, emphasizing the unique challenges and opportunities associated with the speed of implementation. By positioning operational efficiency as a mediator, the framework also bridges the gap between process-level outcomes and broader productivity metrics like TFP. This integration aligns with Dynamic Capabilities Theory, which emphasizes the importance of reconfiguring resources to adapt to technological and market changes, and the Resource-Based View, which underscores the strategic importance of leveraging valuable and rare resources to sustain competitive advantage.

Moreover, the framework situates the analysis in the context of FSS, a domain that has received limited attention in the digital transformation literature. FSS provides a unique environment characterized by standardized processes and heavy reliance on digital tools, making it an ideal setting to explore the implications of transformation speed. The inclusion of FSS enriches the theoretical discussion by demonstrating how centralized operational models can amplify the benefits of rapid transformation when aligned with organizational readiness and resource optimization.

Practical Implications

From a practical perspective, the framework offers actionable insights for managers navigating the complexities of digital transformation. First, it emphasizes the importance of balancing the urgency of transformation with the need for operational alignment. Organizations are increasingly under pressure to accelerate digital initiatives to maintain competitiveness; however, this study highlights that speed alone is insufficient without a focus on efficiency and readiness. Managers can use this framework to evaluate whether their transformation strategies are appropriately aligned with their operational capacities, minimizing the risks of integration failures and workflow disruptions.

Second, the framework underscores the critical role of operational efficiency as a pathway to productivity gains. For firms operating FSS units, this means investing in technologies like robotic process automation (RPA) and cloud platforms that streamline workflows and reduce redundancies. By focusing on efficiency as a strategic priority, firms can ensure that the benefits of rapid transformation translate into measurable improvements in TFP. Additionally, the framework provides a roadmap for firms to leverage FSS as a platform for achieving scalability and agility, demonstrating how centralized financial operations can support broader organizational goals.

Value of the Framework

The value of this framework lies in its dual focus on speed and efficiency within a specific organizational context. By incorporating operational efficiency as a mediator, it provides a more nuanced understanding of how transformation speed affects productivity outcomes. This approach not only advances the theoretical

understanding of digital transformation but also offers practical tools for firms to optimize their strategies. Furthermore, situating the framework in the context of FSS ensures its relevance to a wide range of industries that rely on centralized financial operations, enhancing its applicability and impact.

Hence, this framework bridges the gap between theory and practice, offering a comprehensive perspective on how firms can harness digital transformation speed to drive productivity. By addressing both the opportunities and risks associated with rapid transformation, the framework equips organizations with the insights needed to align their strategies with operational realities, ensuring sustainable productivity gains in the evolving digital economy.

Conclusion

This conceptual paper sets out to examine the impact of digital transformation speed on Total Factor Productivity (TFP), with operational efficiency as a mediator, within the context of Financial Shared Services (FSS). By addressing the underexplored temporal dimension of digital transformation, this study highlights the critical interplay between transformation speed, operational efficiency, and productivity outcomes. The proposed framework contributes both theoretically and practically by bridging gaps in literature and offering actionable insights for firms navigating the complexities of digital transformation in highly standardized environments like FSS.

The framework emphasizes that while digital transformation speed can unlock significant productivity gains, its effectiveness is contingent on operational efficiency. Operational efficiency acts as the mechanism that translates rapid digitalization into measurable TFP improvements, particularly in the structured and technology-intensive setting of FSS. This nuanced approach underscores the importance of aligning transformation strategies with organizational readiness and resource optimization. Drawing on Dynamic Capabilities Theory and the Resource-Based View, the framework integrates insights on agility and resource utilization, offering a holistic perspective on the relationship between transformation speed and productivity. The key contributions of this framework include advancing theoretical understanding of digital transformation speed and providing a practical roadmap for firms to optimize their digital initiatives.

However, as a conceptual paper, this study acknowledges certain limitations. First, the framework has not been empirically tested, leaving room for validation through future quantitative research. Additionally, while the focus on FSS provides a valuable context for exploring these dynamics, the findings may require adaptation when applied to other organizational models or industries. Furthermore, the paper primarily addresses internal organizational factors and does not extensively account for external influences, such as market conditions or regulatory environments, that may also shape the relationships explored.

To build on this study, future research should empirically test the proposed framework using data from diverse industries and organizational contexts. Longitudinal studies could provide valuable insights into how the relationship between transformation speed, operational efficiency, and TFP evolves over time. Additionally, future research might consider external factors, such as industry-specific competitive pressures or technological disruptions, that could moderate these relationships. Exploring these dimensions would not only enhance the robustness of the framework but also expand its applicability across different sectors and organizational structures.

In conclusion, this study provides a valuable foundation for understanding the dynamics of digital transformation speed and its impact on productivity. By situating operational efficiency as a mediator and FSS as the contextual lens, the framework offers theoretical advancements and practical guidance for firms aiming to achieve sustainable productivity gains. The proposed directions for future research pave the way for empirical

validation and further exploration of this critical area in the evolving landscape of digital transformation.

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