-RESEARCH ARTICLE-

VALUE CREATION MECHANISM OF DIGITAL TRANSFORMATION IN FINANCIAL AND ACCOUNTING SHARED SERVICE: A SYSTEMATIC REVIEW

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─**Abstract**─

The accelerating integration of digital transformation within financial and accounting shared services (FASSDT) has drawn considerable scholarly and professional interest. Despite this growing focus, the underlying processes through which FASSDT facilitates value creation remain inadequately explored. This research endeavours to elucidate the value-generation mechanisms embedded within FASSDT by undertaking a systematic review of 30 peer-reviewed articles sourced from the Web of Science (WOS) and China National Knowledge Infrastructure (CNKI) databases. Utilising grounded theory methodology (GTM), the study inductively formulates a conceptual framework delineating how FASSDT enhances organisational value. Through the development of this framework, the study identifies four principal mechanisms by which value is generated: the evolution of processes, organisational structures, data capabilities, and operational models. The empirical findings underscore the contributions of FASSDT to enterprise value through these transformative mechanisms. Positioned within both theoretical and applied contexts, this investigation represents the first comprehensive attempt to systematically delineate and construct a framework encapsulating the core mechanisms of value creation in FASSDT. It addresses a pivotal gap in existing literature concerning financial and accounting shared services (FASS) and digital transformation (DT), offering substantive guidance for practitioners overseeing FASSDT implementation in organisational contexts.

Keywords: Digital Transformation, Financial and Accounting Shared Service, Value and Mechanism, Systematic Review, PRISMA, Grounded Theory.

INTRODUCTION

Digital transformation (DT) represents a strategic initiative wherein organisations adopt technologies such as the Internet of Things (IoT), Artificial Intelligence (AI), and Cloud Computing to enhance operational efficiency, improve performance, and drive value creation (Pronchakov et al., 2022). As a prominent strategy in contemporary enterprise management, DT is extensively utilised to streamline operations, notably within FASS—a model that consolidates financial functions and serves as a critical domain for DT deployment. Since ZTE's initial introduction of FASS in China in 2005, organisations have increasingly leveraged DT to foster both efficiency and innovation (Paulo, 2015). This research investigates how DT in FASSDT contributes to value

creation, particularly through enhanced efficiency, improved collaboration, and innovation (Lucija et al., 2019).

The shared services model first emerged in the United Kingdom and the United States during the 1980s, with early implementation by organisations such as the BBC and General Electric (Han et al., 2023). By 2017, over 75% of Fortune 500 companies had adopted this approach (Richter & Brühl, 2020). In China, the deployment of FASS began with ZTE in 2005 and has since been embraced by more than 1,500 large enterprises (Han et al., 2023). FASS has undergone substantial transformation over the past four decades, driven by continuous technological advancements. Its evolution can be categorised into distinct phases: organisation and process-led, information-based, internet-enabled, and subsequently AI- and data-driven stages. Within the Chinese context, scholars identify FASS as a foundational step in the progression of financial and accounting DT (Ezzamel & Xiao, 2015). Government policy has further supported FASS as a crucial component of this digital transition, advocating for system upgrades, cross-domain sharing practices, the shift from centralised financial processing to data-centred operations, and comprehensive digital integration (Council, 2024).

FASS and DT are interdependent constructs, each reinforcing the other to enhance enterprise value. Nonetheless, the extant literature primarily examines the direct correlation between FASSDT and organisational performance, often neglecting the specific processes through which value is actually realised. This oversight limits the development of theoretical frameworks concerning FASSDT implementation. In response to this shortcoming, the present study aims to investigate and articulate the mechanisms underlying FASSDT value creation. Accordingly, the research addresses the following questions:

RQ1: *What are the key elements of the FASSDT value creation mechanism?*
RQ2: *How do these key elements contribute to FASSDT value creation?*

LITERATURE REVIEW

Contemporary research concerning the value creation mechanism of FASSDT has primarily concentrated on three interrelated dimensions: organisational transformation, process enhancement, and technological innovation. Organisational transformation is recognised as a pivotal contributor to value creation within FASSDT. Klimkeit and Reihlen (2022), alongside Kaya, Kaya et al. (2019), observed that the adoption of Robotic Process Automation (RPA) enables financial shared service centres to transition from executing routine operations to engaging in higher-value strategic tasks. Process improvement also emerges as a central component. Elapatha and Jehan (2020) noted that re-engineering business processes significantly improves the efficiency and overall value of shared services. Junyong et al. (2022) identified four determinants—information systems, human resources, procedural design, and regulatory

compliance—that influence the efficacy of FASSDT.

Technological progress further underpins the value creation potential of FASSDT. da Silva and Cardoso (2024) demonstrated the positive impact of FASSDT on firm profitability through an IT-centric perspective. Additionally, Han et al. (2023) underlined the crucial role of evolving IT platforms in facilitating effective implementation and in generating enterprise-level benefits. Although these studies offer valuable insights into discrete aspects—organisational change, process refinement, and technological capability—there is a growing scholarly movement advocating for a more integrated view that capture the interplay among these elements in the value creation process. This holistic approach seeks to transcend the limitations of fragmented analysis and to examine the interdependencies that characterise the transformation landscape.

Wu et al. (2015) investigated how strategic orientation, organisational structures, business processes, and information systems collectively contribute to value generation in FASSDT. Their study identified seven specific pathways—including process innovation, organisational restructuring, strategic development, and system optimisation—through which value can be realised. Nevertheless, the study falls short of detailing the precise mechanisms through which these elements generate value, thereby underscoring the necessity for more in-depth research on FASSDT's underlying value creation processes. Kraus et al. (2021) emphasised that digital strategy, leadership, and supply chain integration serve as critical enablers of successful digital transformation in shared service environments. Their findings suggest that the presence of a coherent digital strategy and robust leadership structure enhances the operational efficiency of shared services. In alignment with this view, Krykavskyy et al. (2019) highlighted the transformative influence of Industry 4.0 and Internet of Things (IoT) technologies. They argued that real-time data processing and automation improve decision-making, standardisation, and risk mitigation within FASSDT. Furthermore, they contended that organisational structures must be deliberately aligned with digital strategies to facilitate automation and leadership-driven transformation, thereby enhancing economic performance. These insights suggest that realising the full potential of FASSDT requires an integrated alignment of technological competencies, organisational readiness, and strategic direction.

While extant literature contributes to understanding various influential factors, much of it remains fragmented, with studies often isolating organisational, procedural, or technological components. A cohesive theoretical framework that encapsulates the complete mechanism through which FASSDT generates value has yet to be fully developed. By delineating the critical elements involved, constructing a coherent theoretical model, and explicating their contributions to value generation, this study seeks to enrich both academic discourse and practical applications concerning FASSDT.

METHODOLOGY

An inductive approach was employed to conduct the literature review on FASSDT, adhering to the procedures outlined by (Sutrisna & Setiawan, 2016) and (Wolfswinkel et al., 2013), which are grounded in GTM.

Table 1: Grounded Theory Methodology Style of Analysis for Literature Review

Steps	Task(s)
Step 1 —Setting the Scope of the Review	• Define a Domain of Research
Step 2—Selecting Sources of Research Contributions	• Identify a Database to Source Data
	• Select the Type of Publication
Step 3—Selection of Keywords	• Identify a Criterion for the Search Term
	• Search Databases Using the Search Term
Step 4—Screening Process	• Scan Publications
	• Filter Publications
	• Repeat Search Query
Step 5—Eligibility	• Download Publications
Step 6—Inclusion	• Final Selection by Comparing and Discussion
Step 6—Coding Structure and Analysis	In-Depth Analysis using Inclusion/Exclusion Criteria
	• Open Coding
	• Axial Coding
	• Selective Coding

As detailed in Table 1, the framework consists of six primary steps and fourteen sub-steps, which collectively guide the review process from scoping to the presentation of results. The outcome of each step informs the subsequent phase, thereby ensuring that the review remains both transparent and replicable (Hausberg et al., 2019; Nadkarni & Prügl, 2020).

The second part of Table 2 pertains to the coding structure, concentrating on six categories: technologies, processes, organisation, data, operation mode, and values, each with associated subcategories for more detailed examination.

GTM techniques were utilised to analyse the final dataset (Böhm, 2004; Sutrisna & Setiawan, 2016; Vial, 2019), employing open, axial, and selective coding. Open coding entails the conceptualisation and categorisation of data; axial coding examines the relationships among these categories; and selective coding synthesises these findings to facilitate the derivation of a comprehensive, overarching conclusion.

Table 2: Coding Structure of the Final Sample

Part I. Descriptive Information of Journal Publications			
Type	**Item**	**Quantity**	**%**
Publication Field	Finance and Accounting	32	64%
	Information	11	22%
	Management	6	12%
	Mathematics	1	2%
Nature of the Study	Conceptual	14	28%
	Empirical (Qualitative)	20	40%
	Empirical (Quantitative)	16	32%
Context of Study	Enterprise	50	100%
Part II. Coding Structure of Final Samples			
Element Type	Stage of FASSDT		
	Informatisation Stage	**Digitalisation Stage**	**Intelligent Digitalisation Stage**
Technologies	Internet	System Integration	New-Generation Digital Technologies
	Information Systems	Business-Finance Middle Platform	Big Data Middle Platform
	IT Sharing		Decentralised Middle Platform
Process	Process Standardisation and Unification	Process Integration	Process Automation
	Process Sharing		
Data	Data Standardisation and Unification	Data Integration	Intelligent Data Collection
	Data Sharing	Data Quality	Data Value Mining
			Extensive Data Sharing
Organisation	Shared Finance	Strategic Finance, Business Finance	Decentralised Finance Organisation
Operation Mode	Process Operation Mode	Data Operation Mode	Intelligent Digital Operation Mode
Value	Skills Enhancement	Skills Enhancement	**Skills Enhancement**
	Efficiency Improvement	Efficiency Improvement	Efficiency Improvement
		Business Satisfaction Improving	Business Satisfaction Improving
	Reduction in Labour Costs	Reduction in Labour Costs	Reduction in Labour Costs

Open coding was applied to 30 publications, analysing findings, discussions, conclusions, and other pertinent sections, with summaries documented in NVivo. This process resulted in the identification of 89 first-order categories through comprehensive qualitative analysis. During axial coding, these first-order categories were grouped into second-order categories by recognising patterns; for instance, "ERP" and "SAP" were classified under the "information system" category. Publications and codes were repeatedly revisited to uncover additional insights, which condensed the data into 30 second-order categories. Selective coding, representing the highest level of abstraction, synthesised these categories into six principal categories: technologies, processes, organisation, data, operation mode, and value. The axial and selective codes are depicted in Figure 1. In accordance with GTM, the analysis advanced from descriptive data to summaries of primary and secondary categories (open, axial, and selective coding), with interactions among categories illustrated in Figure 2. The memoing procedure served to map emerging categories and novel knowledge as conceptualised by the researcher during the coding process (Hull, 2013; Sutrisna & Setiawan, 2016; Watson & and Webster, 2020).
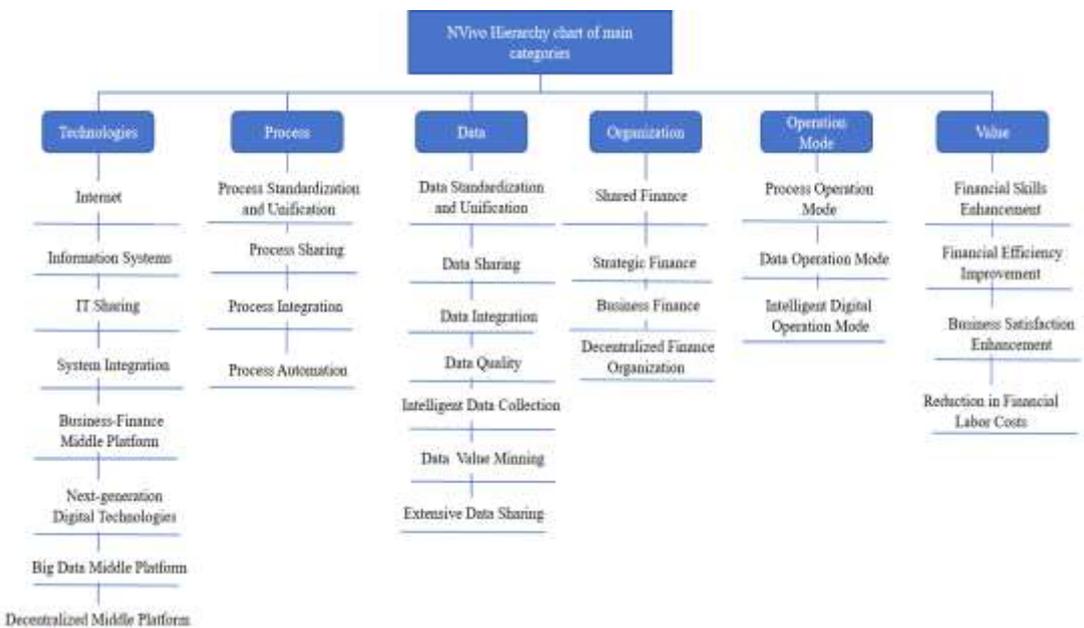

Figure 1: NVivo Hierarchy Chart of the Main Categories (Redesigned by the Authors).

A distinct analysis of the publications was undertaken to identify construction activity fields and their digital transformation through an inductive content analysis method. This approach aligned with the prior inductive literature review process, reflecting the emergent character of the research topic (Kyngäs, 2020). The initial step sought to establish a foundational understanding of FASSDT by pinpointing related fields across 50 publications. Microsoft Excel was employed to catalogue FASSDT-related activities in rows and stages of FASSDT implementation in columns, facilitating cross-analysis

and detailed description. Activities associated with FASSDT encompass the technologies applied during implementation, their influence on elements such as processes and organisation, and the resultant value.

Influenced by factors such as technological progress and organisational scale, the implementation of FASSDT generally occurs in successive stages, which are often classified as informatisation, digitalisation, and the integration of intelligent technologies (Junyong et al., 2022). Accordingly, this study incorporates these implementation stages to elucidate the specific value creation process of FASSDT during data analysis. In the subsequent concept formation phase, the authors utilised the generated table to extract pertinent concepts from various implementation stages, identifying the technologies employed, aspects transformed, and value generated. A separate analysis employing inductive content analysis was performed to investigate FASS-related activities and their digital transformation, consistent with the preceding inductive literature review method, given the emergent nature of the subject matter (Kyngäs, 2020).
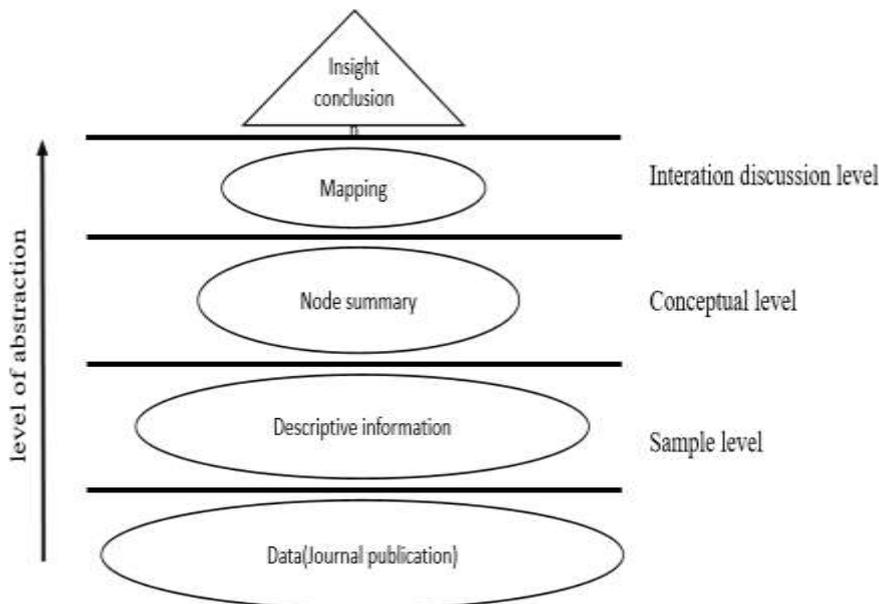

Figure 2: Analysis Procedure

FINDINGS

Inductive Framework of FASSDT's Value Creation Mechanism

The inductive framework, which encapsulates the previously discussed insights into the value creation mechanism of FASSDT, is presented in Figure 3. This framework summarises the principal concepts of FASSDT, developed in step six of the

methodology section, following the application of open coding, axial coding, and selective coding to the analysed sample.
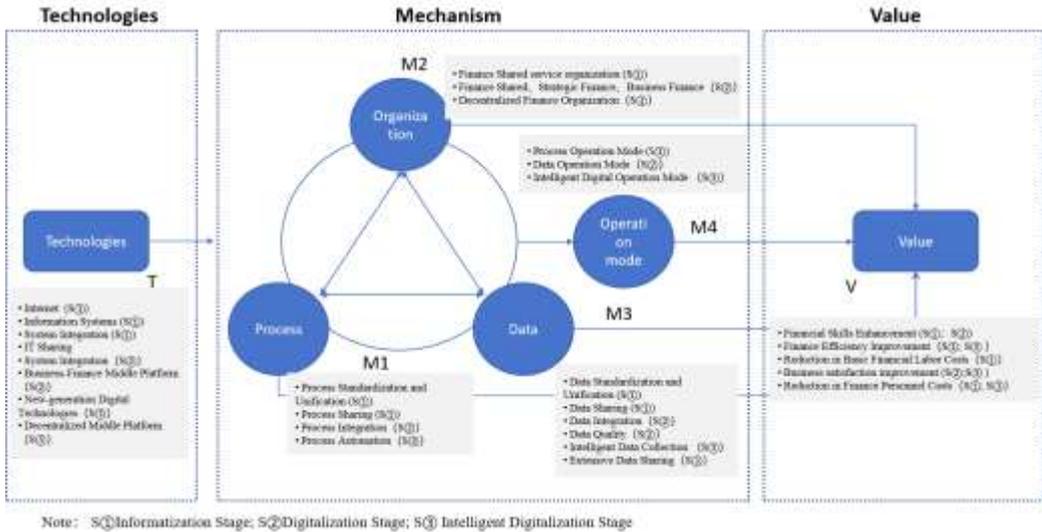

Note: S①Informatization Stage; S②Digitalization Stage; S③ Intelligent Digitalization Stage

Figure 3: Concepts and Value Creation Mechanism of FASSDT

Technologies

The success of FASSDT depends on the effective application of suitable digital technologies (Junyong et al., 2022). As illustrated in Table 2 and Figure 1, this study utilises open coding, axial coding, and selective coding to identify seven fundamental digital technology elements: the Internet, information systems, IT sharing, system integration, business-finance middle platforms, new-generation digital technologies, and Decentralised platforms. These technologies are elaborated upon in this section and summarised in Table 3.

Table 3: Summary of Literature on Key Technologies in FASSDT Implementation

Technologies	Sources
Internet (n=2)	(Chao et al., 2019; Zhao et al., 2015)
Information Systems (n=3)	(Ahmed et al., 2022; Junyong et al., 2022; Q. Zhang, 2020)
IT Sharing (n=2)	(Ali & Miller, 2017; Chao et al., 2019)
System Integration (n=3)	(Junyong et al., 2022; Roscoe et al., 2020; Valleru & Alapati, 2022)
Business-Finance Middle Platform (n=3)	(Han et al., 2023b; Junyong et al., 2022; Manser Payne et al., 2021)
New-Generation Digital Technologies (n=4)	(Deng, 2022; Han et al., 2023; Khan, 2024; Li et al., 2021; Wang, 2022)
Decentralised Middle Platform (n=2)	(Han et al., 2023; Dahiya et al., 2020)

The technological evolution of FASSDT advances through three distinct stages, as depicted in Figure 4.

1. Informatisation Stage: Concentrated on the development and implementation of information systems.
2. Digitalisation Stage: Defined by progress in system integration and the establishment of business-finance middle platforms.
3. Intelligent Digitalisation Stage: Distinguished by the adoption of new-generation digital technologies and the emergence of Decentralised platforms.
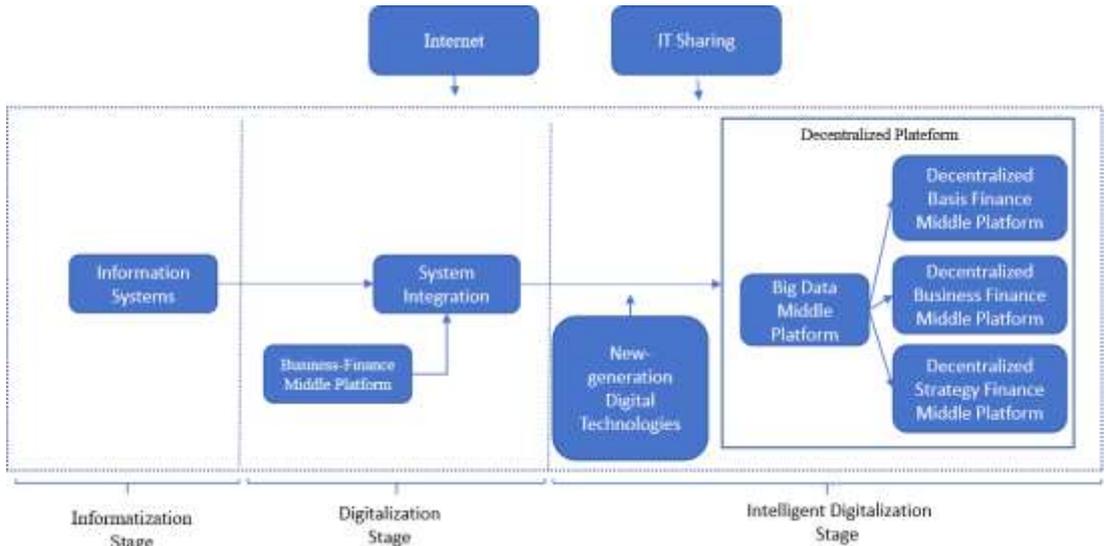

Figure 4: Technologies Evolution in FASSDT

Internet

The Internet, as a global network infrastructure, plays a foundational role in the informatisation stage of FASSDT, enabling connectivity, data exchange, and the integration of digital tools essential for financial and accounting shared services. Case studies by and (Chao et al., 2019) indicate that the Internet was a core enabling technology in the early development of financial shared service centres. Specifically, it broke geographical barriers, supported ERP operations, enabled centralised financial accounting management, and facilitated cross-departmental collaboration (Kaufman & Wagner, 2024).

Information Systems

During the informatisation phase of FASSDT, information systems (IS) serve as fundamental technological enablers for constructing financial shared services (Junyong et al., 2022). While prior studies have examined a variety of software solutions and system brands, there remains a lack of an organised classification framework. To

address this deficiency, the present study distinguishes FASSDT-related IS into two main categories: financial systems and business systems. Financial systems primarily handle data processing and financial management tasks, such as accounting and treasury functions. Representative systems include Yonyou, Kingdee, Inspur (Abiola-Adams et al., 2025), SAP, ORACLE, ERP platforms, and treasury management solutions (Chao et al., 2019). Conversely, business systems facilitate broader business process management, encompassing commerce platforms, supply chain management tools, imaging and barcode systems, decision support systems (Topalova et al., 2024), as well as GVS (Global Value Information System), electronic verification, and electronic imaging technologies (Chao et al., 2019).

IT Sharing

During the informatisation phase of FASSDT, IT infrastructure—particularly information systems—facilitates access across diverse regions and time zones, exemplifying the IT sharing characteristic of this stage. To enhance management, integration, and ensure comprehensive real-time information availability, financial and business systems are frequently consolidated (Chao et al., 2019). Evidence from case studies by Ali and Miller (2017) and (Chao et al., 2019) demonstrates that ERP systems can be utilised globally across the entire organisation.

System Integration

System integration denotes the linkage between different systems, particularly the financial and business systems within the FASSDT framework. This concept is central to the Digitalisation phase, highlighting the importance of openness and interconnectivity among systems (Junyong et al., 2022). Three principal integration models have been identified: (1) Direct Connection, which involves linking pre-existing financial and business systems (Iturbide et al., 2020) (2) System Modification, encompassing the upgrading of financial systems or the introduction of new business modules to achieve integration (Junyong et al., 2022); and (3) Internal-External Integration, which entails the connection of both internal and external systems to realise comprehensive integration (Roscoe et al., 2020).

Business-Finance Middle Platform

The business-finance middle platform serves to bridge business and financial systems, prioritising the unified management and integration of business data while facilitating data accessibility for financial systems. Researchers have emphasised that the establishment of such a platform centralises business data, which in turn improves the efficiency of financial data processing (Junyong et al., 2022). Han et al. (2023) provide a case study detailing the construction principles of the business-finance middle platform, which include: (1) Segregation of Data-Intensive Processes: recognising business activities heavily reliant on data such as contract management, project

information oversight, travel expense reimbursement, invoice verification, and payment processing; (2) Implementation of an Integrated System: deploying a unified system for data management and establishing a middle-tier business-finance platform to optimise data administration and related business workflows.

New-Generation Digital Technologies

In the intelligent Digitalisation phase of FASSDT, organisations extensively integrate next-generation digital technologies, including cloud computing, big data analytics, blockchain, AI, and the IoT, which collectively underpin intelligent enhancements and foster value creation within financial shared services (Ahmed et al., 2022). Specifically, (1) Cloud Computing delivers IT resources and computational capacity via Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS) models, thereby enabling shared IT infrastructure, platforms, and software applications (Deng, 2022; Li et al., 2021). (2) Big Data acts as a pivotal factor in FASSDT, facilitating sophisticated data processing and analytics that extract valuable insights from heterogeneous raw datasets (Wang, 2022). (3) Blockchain technology, characterised by decentralisation and immutability, fosters innovation in FASSDT's IT frameworks and organisational structures (Han et al., 2023). (4) The IoT encompasses tools such as RFID and sensors, which enhance financial and accounting workflows by improving the accuracy and efficiency of data collection, thus positively affecting real-time and financial data management (Al-Hashimy, 2024). The continuous provision of precise information supports ongoing refinement of financial reporting and the utilisation of real-time data for transaction monitoring and compliance oversight, thereby enabling superior control and transparency over an organisation's financial status. (5) AI technologies, including RPA, advance the automation of financial and business operations, whilst data modelling underpins intelligent financial decision-making (Khan, 2024).

Decentralised Middle Platform

The architecture of Decentralised platforms comprises a multi-layered structure, with a big data platform serving as the foundational base, supported by three distinct application layers: Decentralised basic finance, business-finance, and strategic finance platforms (Han et al., 2023) (see Figure 5).

1. Big Data Platform: This layer is tasked with centralised data processing and the extraction of value (Han et al., 2023).
2. Decentralised Basic Finance Platform: It underpins fundamental financial processes, utilising artificial intelligence technologies such as RPA to achieve full automation (Smeets et al., 2021).
3. Decentralised Business-Finance Platform: This platform manages dynamic business-finance operations, employing rule engines and machine learning

techniques for real-time monitoring and anomaly detection, thereby enhancing financial support and service quality (Zhao et al., 2015).

4. Decentralised Strategic Finance Platform: It facilitates strategic financial activities by delivering precise forecasting and decision-making assistance to executives through the use of data models and predictive algorithms (Han et al., 2023).
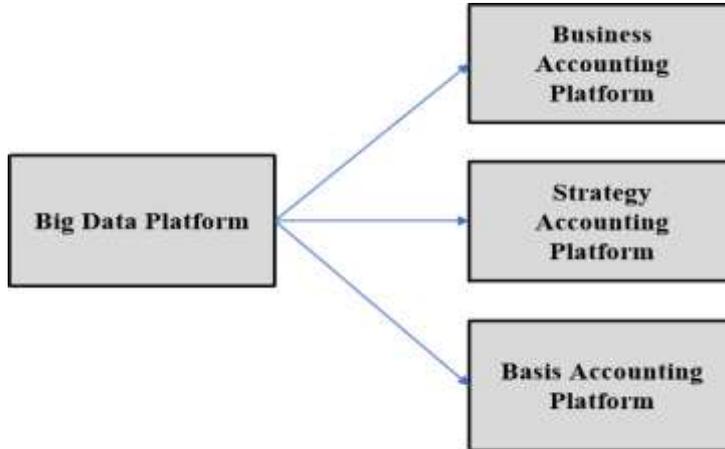

Figure 5: Structure of Decentralised Middle Platform
Source: Developed and Modified from (Han et al., 2023).

Process

During the implementation of FASSDT, digital technologies act as catalysts for process evolution, thereby facilitating value creation (Truong et al., 2021). As demonstrated in Table 2 and Figure 1, this study, through open, axial, and selective coding analysis, identifies four fundamental process elements: process standardisation and unification, process sharing, process integration, and process automation. These components are elaborated upon in this section, with relevant literature summarised in Table 4. As depicted in Figure 6, process evolution constitutes a crucial pathway for value realisation within FASSDT, progressing through three stages: informatisation, digitalisation, and intelligent digitalisation.

1. Informatisation Stage: Enterprises implement information systems, such as ERP, to optimise financial and business operations, achieving process standardisation and unification throughout the organisation.
2. Digitalisation Stage: The emphasis shifts towards the integration of business and financial processes, resulting in improved operational efficiency.
3. Intelligent Digitalisation Stage: Process development advances towards increased intelligence and automation, thereby further enhancing value creation.
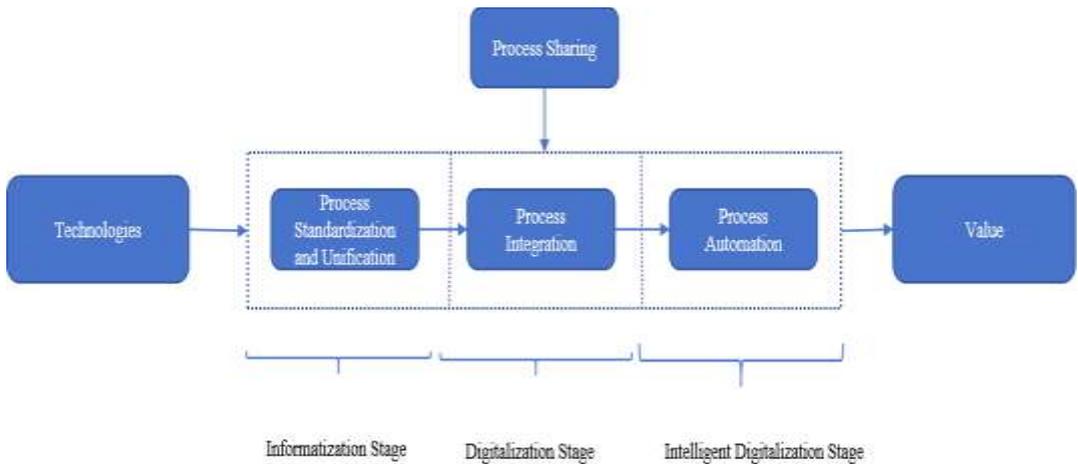
Figure 6: Process Based FASSDT Value Creation

Table 4: Summary of Literature on Process

Process	Sources
Process Standardisation and Unification (n=3)	(Chao et al., 2019; Fedotova et al., 2020; Q. Zhang, 2020)
Process Sharing (n=5)	(Gallego-Losada et al., 2024; Kamuangu, 2024; Klimkeit & Reihlen, 2022; Truong et al., 2021; Zhou et al., 2023)
Process Integration (n=4)	(Alexander & Karametaxas, 2021; Bodepudi, 2023; Breidbach et al., 2020; Mavlutova et al., 2022)
Process Automation (n=6)	(Alt et al., 2018; Dapp, 2017; Klimkeit & Reihlen, 2022; Su et al., 2022; Y. Zhang, 2022)

Process Standardisation and Unification

In the informatisation stage of FASSDT, the standardisation and unification of processes are pivotal for value generation (Chao et al., 2019). Utilising systems such as ERP, organisations succeed in standardising most financial processes, transactional rules, and accounting principles. This standardisation transforms financial operations into a streamlined workflow, ensuring that all financial activities are consistent, precise, and automated (Alao et al., 2024). Consequently, it markedly improves the uniformity of financial processing across various business units and guarantees coherence at the corporate group level (Chao et al., 2019).

Process Sharing

Process sharing entails the consolidation of similar business activities into a singular workflow to enable efficient batch processing. It represents a fundamental aspect of FASSDT during the informatisation stage, playing a vital role in generating shared financial value (Truong et al., 2021). According to case studies by Gustafsson and Nilsson (2024), a significant practice at this stage involves centralising standardised financial processes, such as accounts receivable, accounts payable, expenses, and the

general ledger onto a unified platform underpinned by ERP systems. This centralised financial shared service model markedly enhances process efficiency. Furthermore, the literature indicates that information systems at this stage not only foster the standardisation and sharing of financial processes but also support the alignment of business processes, including supply chain management, procurement, and sales operations (Chao et al., 2019).

Process Integration

Process integration broadens the scope of financial processes to encompass various internal business units as well as external partners, thereby substantially improving the service capabilities of FASS. A case study by Junyong et al. (2022a) illustrates how enhancing the openness and connectivity of the Financial and Accounting Shared Service Centre (FASSC) enabled the enterprise to dismantle information silos between finance, business front-end functions, and external collaborators. The literature delineates several key pathways for process integration: (1) Internal Integration, which involves linking financial and business processes within the organisation (Prajogo et al., 2018) (2) External Integration, referring to the alignment of financial processes with those of external business partners (Alghisi & and Saccani, 2015) and (3) Platform-Based Integration, achieved through a business-finance middle platform that facilitates the seamless connection and integration of business and financial processes (Han et al., 2023).

Process Automation

Process intelligence utilises sophisticated digital tools such as AI, ML, and RPA to enhance financial workflows by adding adaptability and smart capabilities, beyond merely improving efficiency (Han et al., 2023). This advancement unfolds across three principal dimensions: (1) Automating fundamental financial tasks through RPA, where software bots imitate human actions to streamline data extraction and input across multiple systems (Klimkeit & Reihlen, 2022; Su et al., 2022). (2) Enhancing business-finance processes with intelligent technologies that emulate human decision-making in complex scenarios, optimising processing via refined models (Han et al., 2023). Moreover, Koushik (2020) revealed that CNNs can autonomously identify risks and anomalies in expense reimbursements with greater speed and accuracy than manual reviews. (3) Providing intelligent assistance for strategic decisions by equipping management with tools for forecasting, risk management, and strategic planning (Han et al., 2023).

Data

During the implementation of FASSDT, digital technologies play a crucial role in driving the progression of data, thereby facilitating value creation (Junyong et al., 2022). As presented in Table 2 and Figure 1, through open, axial, and selective coding,

this study identifies seven fundamental data elements: data standardisation and unification, data sharing, data integration, enhancement of data quality, intelligent data acquisition, data value extraction, and broad data dissemination. This section provides a detailed discussion of these elements, with relevant studies summarised in Table 5. Figure 7 illustrates that data evolution acts as a principal mechanism for generating value within FASSDT, progressing through three phases: (1) Informatisation Stage, centred on data standardisation, unification, and sharing; (2) Digitalisation Stage, focusing on the enhancement of data quality and integration; and (3) Intelligent Digitalisation Stage, marked by advances in data collection, value mining, and extensive sharing.
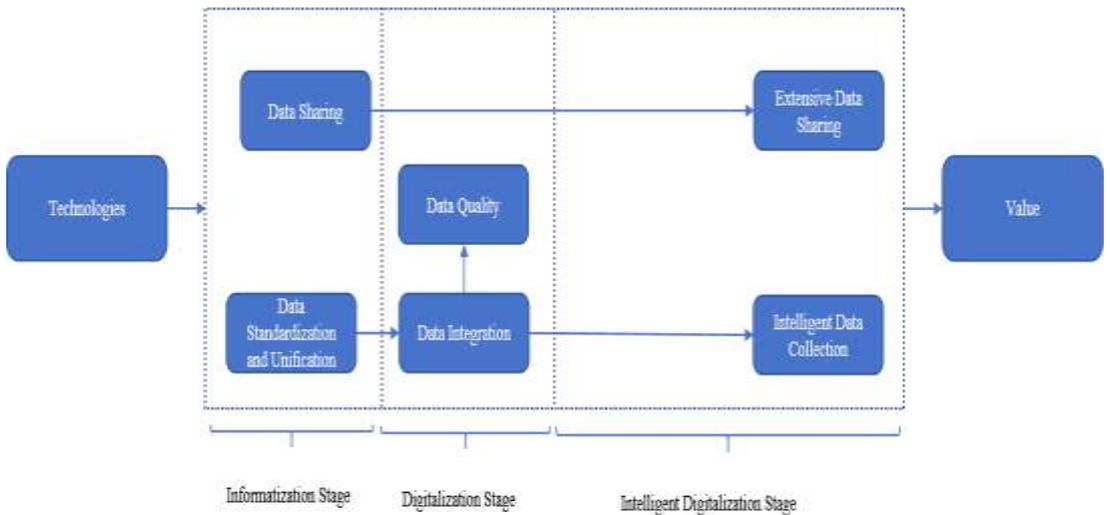

Figure 7: Data Based FASSDT Value Creation

Table 5: Summary of Literature on Data

Category	Sources
Data Standardisation and Unification (n=3)	(Adam, 2016; Chao et al., 2019; Y. Zhang, 2022)
Data Sharing (n=4)	(Chao et al., 2019; Collins et al., 2003; Negi, 2021; Tripathi & Khan, 2023)
Data Integration (n=2)	(Han et al., 2023; Y. Zhang, 2022)
Data Quality (n=5)	(Han et al., 2023; Q. Jiang & W Chen, 2023; Junyong et al., 2022; Utomo et al., 2019; Q Zhang, 2020)
Intelligent Data Collection (n=2)	(Q. Jiang & W Chen, 2023; Q Zhang, 2020)
Data Value Mining (n=3)	(Q. Zhang, 2020)
Extensive Data Sharing (n=1)	(Han et al., 2023)

Data Standardisation and Unification

Data standardisation and unification refer to the coordinated management of data

collection, processing, storage, and dissemination across companies within an enterprise group. Gerek and Aydin (2025) propose a "Four Unifications" framework, encompassing unified accounting codes, accounting data, financial policies, and financial processes. This framework was implemented during the informatisation stage in a case study, enabling the centralisation of data at the group level to facilitate accurate consolidation of financial statements and reduce discrepancies in financial transaction procedures. Comparable findings have been documented by (Ugli, 2024), Chao et al. (2019). Moreover, Yu et al. (2022) highlight that the unification of financial information improves cross-border management information systems in multinational enterprises with integrated financial reporting. Chao et al. (2019) further emphasise that centrally governed financial processes enhance compliance oversight, thereby mitigating risks associated with manual errors and regulatory non-compliance.

Data Sharing

Data sharing involves the effective access to and utilisation of financial information across various departments and organisational entities, facilitated by information systems. This aspect is fundamental to the deployment of FASSDT, particularly during the informatisation phase (Chao et al., 2019). For instance, a case study demonstrated the use of the SAP system to enable data sharing related to general ledger, accounts receivable, accounts payable, and fixed assets throughout the corporate group. This capability supported the FASSC in delivering consolidated financial reporting and data services to its subsidiaries (Ang et al., 2023). Comparable observations have been reported by other researchers, who emphasise how information system-enabled sharing mechanisms promote data exchange across departments and regions (Chao et al., 2019). Chen and Metawa (2020) further describe the real-time transmission of financial data via cloud-based enterprise financial management systems, facilitating uniformity in subsidiaries' financial statements and regulatory compliance. Their findings suggest that organisations employing shared ERP and financial data platforms benefit from reduced processing times, enhanced data quality, and improved risk control. Kshetri (2016) highlights the role of business-finance middle platforms in bridging financial and operational divisions, ensuring that all business units within multinational firms adhere to consistent financial management policies. Additionally, the integration of financial analytics supported by AI enhances decision-making by providing real-time insights into cash flows, expenditures, and resource allocation.

Data Integration

Data integration denotes the consolidated management of financial and business information. During the Digitalisation phase of FASSDT, system integration plays a pivotal role in achieving this data unification. Such integration effectively dismantles information silos, substantially improving both data sharing capabilities and utilisation efficiency (Valleru & Alapati, 2022). The primary approaches to realising data

integration include: (1) Internal Integration, which entails linking financial systems with internal business systems to enable smooth data exchange within the organisation (Pakurár et al., 2019) (2) External Integration, involving the alignment and sharing of financial data with external partners' business systems (Alghisi & and Saccani, 2015); and (3) Business-Finance Middle Platform, which offers innovative solutions for data integration through the establishment of business-finance middle platforms (Han et al., 2023).

Data Quality

Data quality improvement involves enhancing both the accuracy and timeliness of financial data to more precisely mirror actual business conditions. By means of data integration, the linkage between financial and business data is strengthened, leading to substantial advancements in data accuracy and promptness (Han et al., 2023; Junyong et al., 2022). For instance, a case study conducted by (Junyong et al., 2022) demonstrated how the elimination of information silos between finance, front-end business systems, and external partners during the Digitalisation phase facilitated a closed-loop process encompassing data collection, storage, processing, and feedback. This approach ensured the completeness and consistency of data while offering dependable support for managerial decision-making.

Intelligent Data Collection

Intelligent data collection represents a fundamental characteristic of FASSDT during the intelligent Digitalisation phase. The extensive implementation of the IoT has enabled the full automation of data acquisition processes (Q. Jiang & W. Chen, 2023; Q Zhang, 2020). For instance, Q. Jiang and W. Chen (2023) demonstrated that enterprises employing RFID and sensor technologies are able to automatically capture real-time information regarding inventory levels and equipment conditions. This data is then seamlessly integrated with financial systems, effectively eliminating errors associated with manual data entry.

Data Value Mining

The integration of cloud computing and big data technologies has propelled data value extraction into the intelligent Digitalisation stage. Organisations can utilise sophisticated analytical models, including random forest algorithms and time series analysis, to discern significant patterns within extensive historical datasets and produce accurate forecasts. For example, these technologies facilitate intelligent predictions related to future revenue streams and credit risk assessments (Faheem, 2021; Q Zhang, 2020).

Extensive Data Sharing

A key characteristic of FASSDT during the intelligent Digitalisation stage is the widespread sharing of data enabled by Decentralised platforms and architectures, which enhance both data accessibility and integration. For instance, a case study of an enterprise demonstrated that such Decentralised platforms supported efficient data exchange among various business units. This capability allowed the finance function to deliver more precise data assistance to operational departments, markedly improving the scope and effectiveness of data sharing (Han et al., 2023).

Organisation

Throughout the implementation of FASSDT, digital technologies act as catalysts for organisational evolution, thereby generating value (Klimkeit & Reihlen, 2022). This evolution occurs across three distinct phases: (1) Informatisation Stage, marked by the creation of financial shared service centres (FASSCs); (2) Digitalisation Stage, characterised by the adoption of a three-pillar organisational framework; and (3) Intelligent Digitalisation Stage, which involves the emergence of decentralised financial structures (refer to Figure 8) as summarised in Table 6.
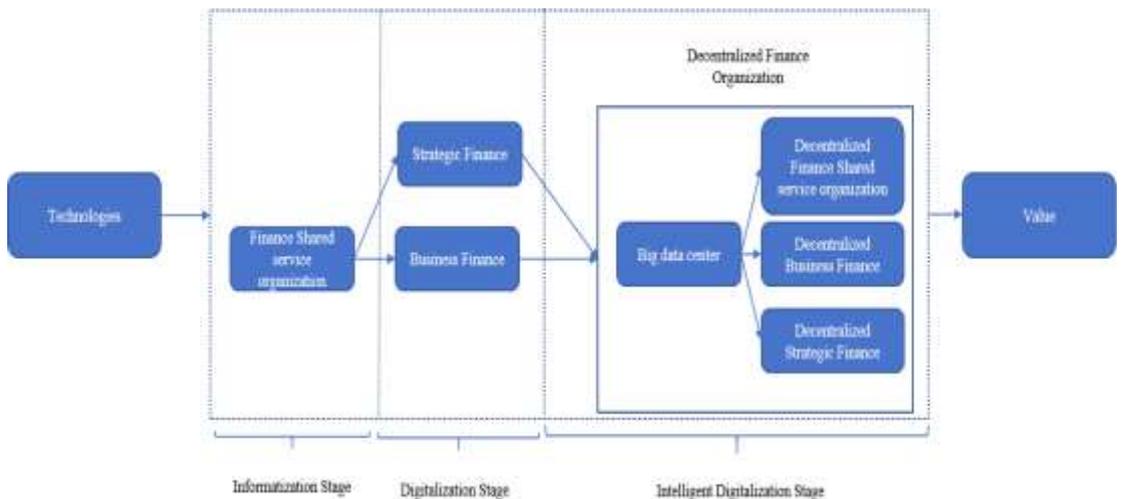

Figure 8: Organisation based FASSDT Value Creation

Table 6: Summary of Literature on Organization

Category	Sources
Shared Finance (n=3)	(Q. Jiang & W Chen, 2023; Klimkeit & Reihlen, 2022; Q. Zhang, 2020)
Strategic Finance (n=1)	(Yu et al., 2022)
Business Finance (n=3)	(Chen et al., 2023; Han et al., 2023; Q. Jiang & W Chen, 2023)
Decentralised Finance Organisation (n=3)	(Q. Jiang & W Chen, 2023; Wu et al., 2015; Zhao et al., 2015)

Shared Finance

During the informatisation stage, a fundamental organisational transformation occurred, shifting from traditional decentralised financial frameworks towards a shared service structure. The deployment and utilisation of information systems facilitated the creation of FASSCs. Within these centres, decentralised finance personnel were reorganised into specialised units, each responsible for distinct financial functions (Chao et al., 2019). Typical examples of such units include expense centres, accounting centres, and treasury centres, alongside asset accounting centres, accounts receivable centres, accounts payable centres, tax centres, and financing centres (Chao et al., 2019). Although FASSC configurations differ among enterprises due to organisational variations, they generally encompass three primary functional areas: accounting, treasury management, and tax management.

Strategic Finance

Strategic finance is primarily concerned with aiding senior management in strategic decision-making. Its duties encompass ensuring alignment with the overall corporate strategy by formulating financial policies, regulations, and growth plans, as well as delivering decision-support services to executives. For instance, during the Digitalisation stage, a case study of an enterprise documented the creation of a Strategic Finance Centre dedicated to critical areas such as financial strategy formulation, internal control system design, tax planning, and capital management (Grundy et al., 2022).

Business Finance

To enhance support for business units, numerous enterprises establish business finance departments during the Digitalisation phase of FASSDT (Han et al., 2023; Q. Jiang & W. Chen, 2023). The core function of business finance is to facilitate business operations and contribute to the attainment of organisational objectives. By closely integrating with business processes, business finance fosters the alignment of financial and business management. During this stage, organisations frequently implement a "three-pillar model" structure comprising shared finance, business finance, and strategic finance (see Figure 9). This configuration effectively addresses the complexities of financial specialisation in digital contexts, improves the expertise of financial roles, and bolsters financial support for both business operations and strategic decision-making (Q. Jiang & W. Chen, 2023).
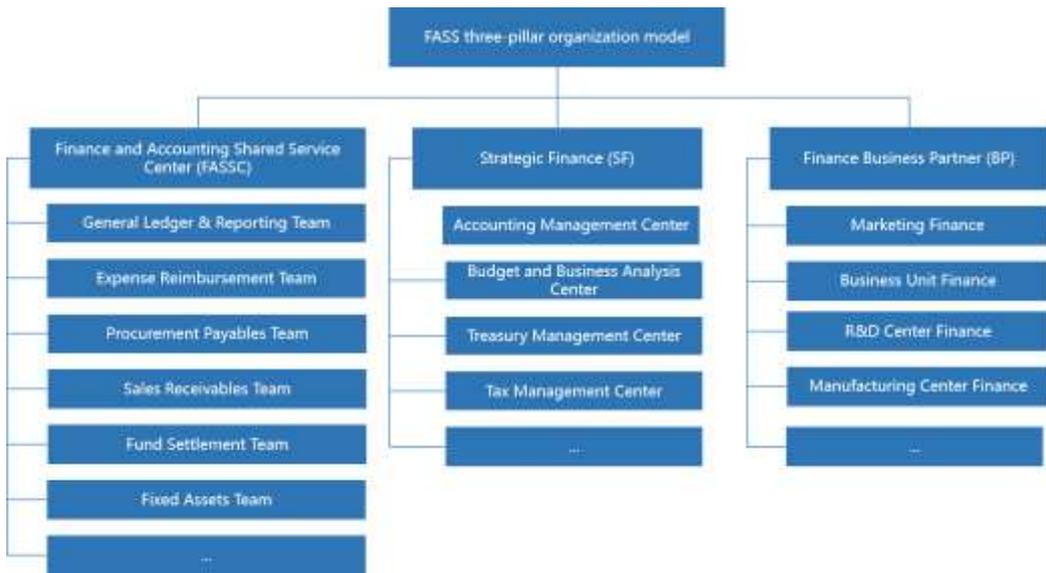
Figure 9: Finance and Accounting Three-Pillar Organisation Mode
Source: Developed from Q. Jiang and W. Chen (2023)

Decentralised Data Organisation Structure in Finance

Supported by Decentralised platform architectures, shared finance has transformed into a multi-tiered Decentralised finance organisation, comprising a big data centre, Decentralised basic finance, Decentralised business finance, and Decentralised strategic finance (Han et al., 2023) (see Figure 10).

1. Big Data Centre: The big data platform facilitates the transformation of the FASSC into a big data centre, forming the foundation of Decentralised finance by underpinning basic, business, and strategic finance functions (Junyong et al., 2022).
2. Decentralised Basic Finance: Supported by the big data centre, basic finance teams can operate across multiple regions while ensuring efficient and unified management, thereby significantly improving organisational flexibility (Han et al., 2023).
3. Decentralised Business Finance: Business finance departments, organised by business units and reliant on the big data centre, are segmented into several sub-units, facilitating business-oriented management and enhancing operational responsiveness (Han et al., 2023).
4. Decentralised Strategic Finance: This component is structured around specialised functions and employs big data models to deliver precise strategic forecasting and decision-making support for senior leadership (Han et al., 2023). Moreover, smart contracts enable seamless integration among the big data centre, strategic finance, and business finance divisions, dismantling conventional departmental barriers and fostering effective collaboration (Han et al., 2023).
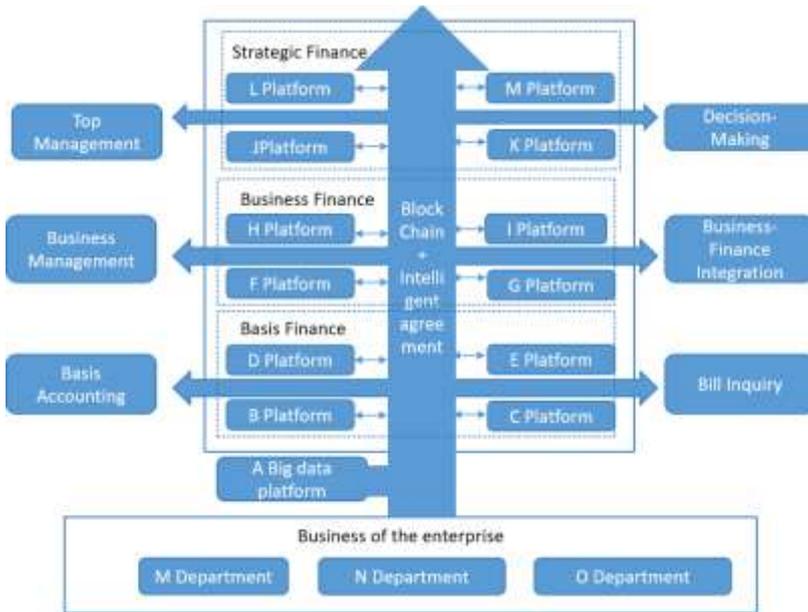
Figure 10: Decentralised Organisational Structure
Source: Developed from (Han et al., 2023)

Operation Mode

During the implementation of FASSDT, technological advancements propel the transformation of operational modes, thereby generating value (MSAAM, 2024). As demonstrated in Table 2 and Figure 1, the analysis through open, axial, and selective coding reveals three fundamental elements of operational modes: process operation mode, data operation mode, and intelligent digital operation mode. Figure 11 depicts the progression and value creation of these modes throughout the three FASSDT stages: (1) process operation mode during the informatisation stage; (2) data operation mode in the Digitalisation stage; and (3) intelligent digital operation mode at the intelligent Digitalisation stage. It is crucial to emphasise that, at each stage, the operational mode is generally defined within the framework of the enterprise's strategic planning (Han et al., 2023; Junyong et al., 2022). The development of these operational modes is the outcome of an integrated reconstruction involving technology, organisation, processes, and data.

Figure 11: Mode based FASSDT Value Creation

Table 7: Summary of Literature on Operation Mode

Operation Mode	Sources
Process Operation Mode（n=2)	(Chao et al., 2019; Q. Jiang & W Ch
Data Operation Mode（n=3)	(Junyong et al., 2022; Q. Zhang,
Intelligent Digital Operation Mode（n=3)	(Han et al., 2023; Q. Jiang & W. Chen, 2023; Junyong et al., 20

Process Operation Mode

During the informatisation stage, the operational mode transitioned from traditional, person-dependent approaches to a process-oriented mode. This mode is defined by three principal characteristics: (1) process Standardisation, which involves the uniformity of financial and business procedures to establish efficient, assembly-line style workflows (Frazer, 2016); (2) online functionality, employing information systems to facilitate remote transmission and the digital completion of financial and business activities (Chao et al., 2019) and (3) sharing, which entails the extraction and consolidation of standardised financial and business tasks for centralised management across the enterprise group (Bergmann et al., 2016).

Data Operation Mode

In the Digitalisation stage, the operational mode progressed from a process-centric approach to a data-driven model. The fundamental characteristic of this mode is the utilisation of data as a critical component in business operations (Junyong et al., 2022a; Y. Zhang, 2022). For instance, one case study focused on achieving digital applications by analysing data to better understand customer requirements (Tan & Zhan, 2017). Similarly, another example emphasised the creation of a data-driven business management framework through system integration and robust data governance (You & Wu, 2019).

Intelligent Digital Operation Mode

In the intelligent Digitalisation stage, the operation mode advances from a data-driven framework to an intelligent digital operation mode. This mode is distinguished by the following characteristics:

Data-Centric Approach: Data functions as a fundamental production element, seamlessly integrated across the entire cycle of collection, processing, analysis, and application (Junyong et al., 2022; Y. Zhang, 2022). At this stage, data sharing and reuse are significantly expanded, thereby maximising its value (Han et al., 2023).

Intelligence as a Primary Driver: Within basic finance, RPA technology facilitates full automation of processes such as financial accounting, markedly reducing labour costs (Junyong et al., 2022). In business finance, decentralised digital platforms and real-time

data streams enable continuous monitoring and feedback, improving operational efficiency and quality (Han et al., 2023). For strategic finance, intelligent technologies—including data modelling, extract meaningful patterns from extensive datasets to support strategic decision-making (Olanrewaju et al., 2024).

Value

The review demonstrates that FASSDT generates diverse types of value throughout its evolutionary stages (Chen et al., 2023; Junyong et al., 2022; Ou & Zhang, 2025). As presented in Table 2 and Figure 1, through the application of open, axial, and selective coding, four principal value dimensions are identified: skill enhancement, efficiency improvement, business satisfaction, and cost reduction, as summarised in Table 8 below. However, the literature reveals fragmented and inconsistent accounts regarding the value generated by FASSDT. To resolve this, the current study systematically organises value according to the Balanced Scorecard (BSC) framework (Ou & Zhang, 2025), encompassing four perspectives (see Figure 12): employee learning and growth, internal processes, customer satisfaction, and financial performance. The analysis centres on the direct outputs of FASS across three functional domains: basic finance, business finance, and strategic finance.

1. Informatisation Stage: Value primarily arises within basic finance, emphasising skill enhancement, efficiency improvement, and reduction of labour costs.
2. Digitalisation Stage: Value expands to include business and strategic finance, predominantly manifested through efficiency gains and increased business satisfaction.
3. Intelligent Digitalisation Stage: Value permeates basic, business, and strategic finance alike. Efficiency improvements and cost reductions remain consistent across all areas, while skill enhancement is evident in both basic and business finance.
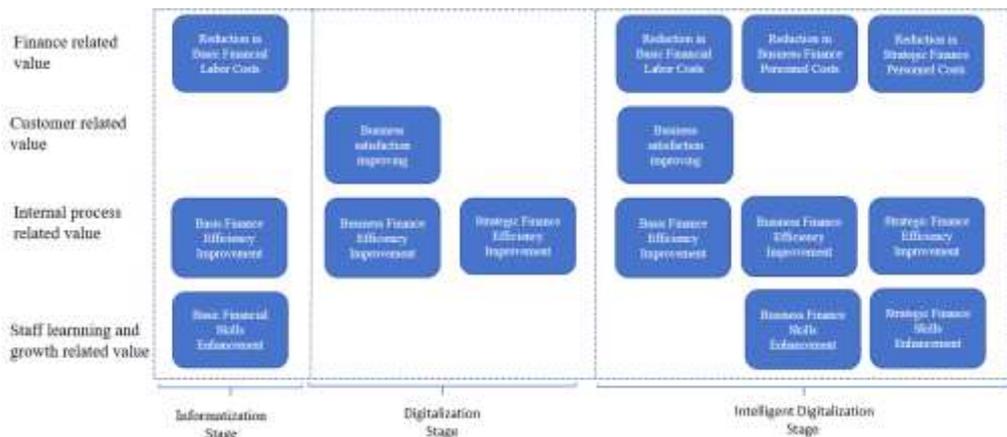

Figure 12: Value System of FASSDT Value

Table 8: Summary of Literature on Value

Category	Sources
Skill Enhancement (n=4)	(Junyong et al., 2022; KAYA et al., 2019; Klimkeit & Reihlen, 2022; Q. Zhang, 2020)
Efficiency Improvement (n=4)	(Firmansyah et al., 2023; Han et al., 2023; Saengchai & Jermsittiparsert, 2019; Q. Zhang, 2020)
Business Satisfaction Improving (n=3)	(Han et al., 2023; Q. Jiang & W Chen, 2023; Q. Zhang, 2020)
Cost Reduction (n=5)	(Han et al., 2023; Junyong et al., 2022; Klimkeit & Reihlen, 2022; Wang, 2022; Q. Zhang, 2020)

DISCUSSION

This paper aims to investigate the value creation process of FASSDT through an analysis of technology, processes, organisation, data, and operations. While prior research acknowledges that FASSDT contributes to corporate value creation (Chen et al., 2023; Junyong et al., 2022), the specific mechanisms by which this value is generated remain insufficiently explained. This study addresses this gap by delineating the progression of FASSDT across three phases, Informatisation, Digitalisation, and Intelligent Digitalisation—and examining how each phase influences value creation.

Technologies (T)

The study acknowledges that FASSDT is open-ended resulting from ever-changing technological advancement (Junyong et al., 2022). In the Informatisation stage, enterprises adopt ERP systems, which standardise their financial business processes (Chao et al., 2019). The Digitalisation stage moves to an analytical stage, which makes the data more organised, dismantles data silos, and enhances decision-making processes (Han et al., 2023). In the Intelligent Digitalisation stage, intelligent technologies like AI and blockchain improve process automation and Decentralised Finance (Q Zhang, 2020).

Process (M1)

Process reengineering is one-way thcrough which FASSDT achieves its value proposition. The first level of process improvement relates to the standardisation of early practices with the help of ERP (Menon, 2019). In the future progression of FASSDT, liability and business procedures in organisations will be decentralised, facilitating informed decision-making (Tavares et al., 2024). The intelligent stage adopts RPA to increase flexibility and operational effectiveness in accomplishing processes (Klimkeit & Reihlen, 2022).

Organisation (M2)

Organisational restructuring is closely connected to FASSDT implementation. Enterprises begin with a three-pillar model—basic finance, business finance, and

strategic finance—to integrate financial services (Han et al., 2023). The final phase is a decentralised financial system solution whereby AI and blockchain enhance efficiency in financial functioning (Abu-Zaid & Hammad, 2024).

Data (M3)

Data is positioned as a critical factor in FASSDT implementation and value creation. In the Informatisation stage, data becomes unified, improving processing efficiency. The Digitalisation stage integrates business and financial data, enhancing data quality and establishing a data-driven decision-making model (Junyong et al., 2022). In the Intelligent Digitalisation stage, big data technologies enable intelligent support for business management and decision-making (Han et al., 2023; Q. Jiang & W. Chen, 2023; Junyong et al., 2022).

Operation Mode (M4)

Operation modes undergo significant changes across implementation stages. In the Informatisation stage, the focus is on process-based operation modes promoting standardised processes and unified financial management through shared service centres. The Digitalisation stage centres on data-driven operation modes integrating financial and business data to enhance decision-making (Junyong et al., 2022). In the Intelligent Digitalisation stage, intelligent operation modes leverage big data and AI to maximise data value and operational efficiency (Han et al., 2023). Operation modes play a key role in integrating process, data, organisation, and technology evolutions.

Value (V)

This study outlines the value systems formed across the three stages of FASSDT. Current research covers aspects such as process efficiency (Kaya et al., 2019), shared service centre performance (Junyong et al., 2022), and corporate profitability (Chen et al., 2023). FASSDT optimises operations by enhancing efficiency (Junyong et al., 2022), reducing costs (Mahdi et al., 2024), improving employee skills (Klimkeit & Reihlen, 2022), and increasing customer satisfaction (Klimkeit & Reihlen, 2022). These pathways align with the Balanced Scorecard framework (Ou & Zhang, 2025) and span basic finance, business finance, and strategic finance functions (Krylov, 2015).

CONCLUSION

This study seeks to address the existing gap in the literature by analysing and elucidating the value-creation mechanisms within the context of FASSDT. Accordingly, this paper synthesises prior research and employs GTM to identify four principal value-creation pathways: process evolution, organisational evolution, data evolution, and operational model evolution. The research identifies three distinct phases of FASSDT—informatisation, Digitalisation, and intelligent Digitalisation—each characterised by

specific technological advancements and organisational transformations. The findings suggest that the processes of standardisation, integration, and automation of financial and business operations contribute to enhanced efficiency, cost reduction, and more informed strategic financial decision-making. Furthermore, the decentralisation of financial and control functions, enabled by big data platforms and smart contracts, fosters greater business flexibility and strengthens collaboration between business units and the financial sector. Drawing upon existing studies, this research develops a theoretical model that delineates how FASSDT generates value across its various implementation phases.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are proposed to enhance the operational effectiveness of FASSDT.

Develop a Phased Implementation Strategy

The adoption of FASSDT should proceed gradually, commencing with informatisation before progressing to the stage of intelligent Digitalisation. This approach necessitates aligning the organisation's specific needs with the appropriate digital technologies at each phase.

Invest in Advanced Digital Technologies

It is advised that organisations incorporate cutting-edge technologies such as AI, RPA, big data analytics, and blockchain. These tools support the intelligent automation of financial processes, enable real-time data integration, and facilitate informed decision-making.

Enhance Data Governance and Quality Control

Given the critical role of financial and business data, companies should establish robust policies governing data usage, formatting, and security. This involves implementing real-time monitoring systems, utilising AI to identify anomalies, and ensuring compliance with international accounting standards.

Promote a Decentralised Finance Model

Enterprises are encouraged to transition towards a decentralised finance structure underpinned by big data centres and smart contracts. This model offers superior efficiency, transparency, and flexibility compared to traditional structures, thereby providing a stronger foundation for strategic financial planning.

Enhance Workforce Digital Competencies

It is essential for organisations to provide comprehensive training for financial personnel, equipping them with the skills required to operate contemporary digital technologies, apply analytical algorithms, and leverage AI-based methods in business management.

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