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DEVELOPING FAIR DATA VALUE SHARING MODELS TO ENHANCE PERSONAL DATA SOVEREIGNTY IN ELECTRONIC COMMERCE IN VIETNAM

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ABSTRACT

In the context of rapid digital transformation, the protection of personal data and customer privacy has become an increasingly urgent issue in e-commerce. This article critically examines the limitations of existing security frameworks, which predominantly emphasize passive protection or regulatory compliance, and proposes a new paradigm centered around fair data value-sharing models. Building upon the theoretical foundations of personal data sovereignty and the data economy, the study designs three conceptual models that reposition consumers as active participants in the digital value chain. These models not only empower individuals to control and monetize their personal information but also offer businesses a sustainable pathway to foster trust and loyalty. By analyzing the associated benefits, costs, and technological enablers such as blockchain, smart contracts, and self-sovereign identity systems, the article provides strategic and policy recommendations to guide the transition toward a fairer and more human-centric data economy.

KEYWORDS: Fair Data Value Sharing, Personal Data Sovereignty, Blockchain, E-Commerce, Data Economy

1. INTRODUCTION

The remainder of this article will outline the theoretical underpinnings of personal data sovereignty, propose conceptual models of fair data value-sharing, and explore their application in the Vietnamese e-commerce context. Furthermore, the paper will provide policy recommendations, address implementation challenges, and propose a strategic roadmap for achieving a more human-centered data economy.

Vietnam, like many other developing economies, stands at a crossroads. The country must decide whether to follow extractive data models that prioritize surveillance capitalism or to pioneer a more equitable, transparent, and participatory approach to data governance. This paper argues for the latter, introducing fair data value-sharing models that not only protect users but also empower them to

become beneficiaries of the data economy. The proposed models are not merely theoretical; they draw on existing technological tools, legal frameworks, and ethical principles to chart a path forward.

As data becomes the lifeblood of digital services, questions of ownership, consent, and value distribution have emerged at the forefront of academic, regulatory, and industrial discourse. In traditional data models, individuals function merely as data sources—providing information passively and often unknowingly. In contrast, emerging discourses in data sovereignty and digital human rights argue that individuals should have control over their data as a form of personal capital.

The digital economy has witnessed unprecedented growth in recent years, driven by the mass adoption of online platforms, mobile applications, and cloud-based services. In Vietnam, the e-commerce sector has experienced exponential expansion, with online sales accounting for a significant portion of consumer spending. However, this boom in digital services is paralleled by increasing concerns over how personal data is collected, stored, and monetized. The prevailing data governance systems largely benefit corporations, while consumers remain unaware of the extent to which their information is commodified.

2. Theoretical Background and Literature Review

In light of these theoretical and empirical insights, the present study contributes by designing and contextualizing fair data value-sharing models suitable for Vietnam's evolving e-commerce landscape. It addresses the dual need to safeguard individual rights and unlock new value creation paradigms rooted in consent, transparency, and fairness.

The literature also highlights significant barriers to operationalizing these ideals. Among them are technological fragmentation, regulatory inconsistency across jurisdictions, and the digital literacy divide. Furthermore, few empirical studies have examined how such models perform in emerging markets like Vietnam, where institutional capacities and consumer awareness may differ from those in developed economies.

Moreover, the idea of Data Trusts, as proposed by the Open Data Institute (2018), introduces institutional mechanisms to steward collective or individual data rights. These intermediaries can negotiate terms of data usage with corporations on behalf of individuals or communities, facilitating greater accountability and equitable value distribution.

Recent advances in digital architecture offer novel pathways to counteract this imbalance. The concept of Self-Sovereign Identity (SSI) allows users to store and manage their identity attributes without relying on centralized identity providers. When combined with blockchain technology and zero-

knowledge cryptography, users can disclose only the information needed for specific transactions—minimizing risks and enhancing privacy.

The economic significance of personal data is another focal point in the literature. Pentland (2019) posits that data functions as a new factor of production, akin to land or labor in earlier economic paradigms. However, unlike those resources, personal data is often extracted without direct compensation to its originators. This dynamic has led to what Zuboff (2019) terms “surveillance capitalism”—a system where platforms harvest behavioral data for predictive analytics and advertising revenues, while users receive only the “free” service in return.

Legal frameworks such as the European Union's General Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA) mark significant milestones in institutionalizing data protection. However, their core focus remains reactive—enabling users to restrict or withdraw consent, rather than proactively empowering them to leverage data as an asset. Scholars such as Van Dijck and Poell (2018) argue that data rights must evolve from mere protections against abuse toward mechanisms that support individual agency and participatory control.

The foundation of personal data sovereignty lies in the belief that individuals should maintain control over their digital identities and the economic value generated from them. This aligns with broader frameworks in digital human rights, which view informational self-determination as a key element of personal freedom in the information age. The principle that individuals—not corporations or states—should have the final say in how their personal data is used has gained traction with the enactment of privacy regulations worldwide.

3. Proposed Fair Data Value-Sharing Models

Together, these three models represent a continuum of possibilities, from individualized consent-based exchanges to collective data bargaining through intermediaries. Policymakers and industry actors must assess which model—or hybrid thereof—best aligns with local socio-legal conditions and digital infrastructure capacities.

Although this model introduces operational complexity, it offers a promising route to achieve scale, transparency, and market competitiveness. If implemented with adequate oversight, it can empower Vietnamese consumers to participate meaningfully in the data economy.

Features include:

- Data pooling for collective bargaining;
- Certification standards to ensure ethical data stewardship;
- Benefit-sharing algorithms based on contribution metrics;

- Governance structures involving user representation.

This model introduces an intermediary—an ethical data broker—that aggregates user data access requests, negotiates terms with corporations, and equitably distributes revenue or non-monetary benefits to the data contributors. The brokerage functions as a fiduciary agent, aligning the interests of consumers with those of commercial data users.

3.1 Trusted Data Brokerage Platform Model

The potential for this model is significant in Vietnam, where trust in institutions varies, and regulatory enforcement capacity is limited. Blockchain introduces a layer of verifiability that reduces dependence on centralized authorities.

This model offers:

- Trustless enforcement through distributed ledger technology;
- Data traceability and immutable audit trails;
- Standardized contract templates for different e-commerce scenarios;
- Scalable automation for large user datasets.

This model harnesses the power of blockchain to automate and enforce data-sharing agreements. Smart contracts serve as programmable protocols that define and execute rules for data transactions. These may include terms such as: “User A allows Platform B to access their online shopping history for 60 days, strictly for product recommendation purposes, in return for a 5% discount.” Once executed, the smart contract autonomously verifies compliance and applies penalties in case of violations.

3.2 Smart Contract-Based Data Management Model

This model encourages companies to adopt ethical data practices and creates a competitive incentive for firms to offer meaningful value in return for user data.

The Fair Data Exchange Model envisions a bilateral arrangement in which individuals grant selective access to their data in return for clearly defined compensatory benefits. Unlike implicit consent frameworks or opaque data monetization strategies, this model emphasizes explicit negotiation and value transparency. For example, a consumer shopping on an e-commerce site may opt to share geolocation data in exchange for real-time location-based promotions or discounted delivery fees. The crucial innovation lies in ...

Key features of this model include:

- A data dashboard that allows granular control of data categories shared;
- Transparent data logs accessible by the consumer;
- Clearly articulated benefits for each data-sharing decision;

- Opt-out mechanisms with no penalization.

3.3 Fair Data Exchange Model

This section elaborates on three proposed conceptual models designed to create a fairer distribution of value generated from personal data within the Vietnamese e-commerce ecosystem. Each model is informed by legal, technological, and ethical considerations and seeks to reconfigure the relationship between data subjects and data consumers.

4. Benefits, Costs, and Challenges

In sum, while fair data value-sharing models present a compelling vision of digital justice, their realization necessitates navigating complex trade-offs. Stakeholders must approach implementation iteratively, balancing innovation with inclusion, and ethics with efficiency. The following sections will explore the technological enablers that can help mitigate some of these challenges and further amplify the positive outcomes of a fairer data economy.

Yet, several institutional hurdles remain. Regulatory bodies may lack the technical expertise or capacity to monitor decentralized data exchanges or certify ethical brokers. Interoperability between platforms—especially those operating across borders—poses a compliance challenge. Moreover, establishing clear legal definitions for data ownership, transfer rights, and compensation obligations will require interdisciplinary coordination and public consultation.

For regulators, fair data value-sharing frameworks offer tools to enhance transparency, protect consumers, and foster a healthier digital economy. By formalizing value-sharing standards, governments can reduce exploitation, enable innovation, and promote equitable digital participation.

4.1 Consumer Benefits and Challenges

The implementation of fair data value-sharing models promises a range of transformative benefits across individual, corporate, and societal dimensions. However, such transformations are accompanied by considerable challenges and trade-offs. Understanding these dynamics is essential for designing practical, scalable, and context-sensitive data governance frameworks.

4.2 Business Incentives and Risks

Nevertheless, challenges persist. First, digital literacy remains uneven across Vietnamese populations, particularly in rural and aging demographics. Complex interfaces or unclear data terms may overwhelm users, inadvertently reinforcing exclusion. Second, there is a risk that the promise of financial incentives may pressure economically vulnerable individuals into over-sharing data—an issue reminiscent of the “privacy paradox.” Third, technical tools such as personal data wallets or

consent dashboards require robust user education and support infrastructures.

From the perspective of individual data subjects, fair data models offer a shift from passive exposure to active agency. Empowering users to decide how and when their data is used restores a degree of autonomy previously eroded by opaque data practices. Tangible benefits may include monetary compensation, tailored services, greater privacy protection, and a renewed sense of control over one's digital footprint.

4.3 Regulatory and Institutional Considerations

However, the transition is far from cost-neutral. Investments in blockchain integration, consent management systems, staff training, and legal compliance will be required. Traditional revenue models, especially those based on aggressive data monetization or third-party reselling, may face disruption. Companies may also encounter resistance from shareholders seeking short-term gains over long-term ethical repositioning.

For businesses, these models open new pathways for ethical branding, deeper customer engagement, and access to high-quality volunteered data. Transparent data relationships can strengthen customer loyalty, reduce churn, and differentiate firms in an increasingly competitive digital market. Furthermore, adopting forward-thinking data practices may preempt regulatory penalties and enhance reputational capital.

5. Technological Enablers

In conclusion, while technology is not a panacea, it is an indispensable enabler. When thoughtfully deployed, these tools provide the infrastructure necessary to operationalize fairness, scalability, and trust in digital data economies. The following section will explore comparative case studies to contextualize these technologies and frameworks in both global and Vietnamese settings.

In a diverse and fragmented e-commerce landscape like Vietnam's, interoperability ensures that data value-sharing mechanisms can function across large, small, public, and private entities without becoming siloed or exclusionary.

Standardization of data formats, metadata structures, and exchange protocols is vital for enabling seamless transactions between platforms, sectors, and jurisdictions. Open APIs allow different systems to communicate, thereby fostering ecosystem-wide innovation.

5.1 Blockchain Technology

The successful implementation of fair data value-sharing models depends on the availability and

integration of a suite of advanced digital technologies. These technologies form the backbone of secure, transparent, and user-centric data ecosystems. In the context of Vietnam's growing e-commerce sector, harnessing these tools strategically can overcome trust deficits, enforce compliance, and scale participatory data governance.

5.2 Self-Sovereign Identity (SSI)

Smart contracts—self-executing agreements encoded on the blockchain—automate processes such as permission granting, revocation, payment transfers, and compliance enforcement. For example, a Vietnamese retail platform could use smart contracts to verify that user data is only employed for agreed-upon purp...

Blockchain's decentralized ledger system provides a tamper-proof mechanism for recording data transactions. Each block in the chain is cryptographically linked to the previous one, making unauthorized alterations practically infeasible. This ensures integrity in consent logs, usage audits, and benefit distribution records.

5.3 Zero-Knowledge Proofs (ZKP)

In a Vietnamese context, SSI could enable consumers to log into multiple platforms using verified credentials issued by government or academic institutions, reducing fraud and data duplication. Moreover, SSI reinforces privacy by minimizing unnecessary exposure of personal data.

SSI frameworks allow individuals to manage their digital identities independently of central authorities. Using cryptographic credentials stored in personal data wallets, users can selectively disclose only the necessary attributes for a transaction (e.g., proof of age without sharing full ID).

5.4 Personal Data Wallets

This technology is particularly useful in sectors requiring regulatory compliance without compromising user anonymity. ZKPs also reduce the risk of secondary data misuse—an increasingly common vector for identity theft and profiling.

ZKP protocols allow one party to prove a statement's validity to another without revealing any additional information. For instance, an e-commerce site can confirm that a customer meets an age threshold for alcohol purchases without accessing their exact birthdate.

5.5 Interoperability Standards and APIs

Vietnamese users—especially younger, tech-savvy demographics—could benefit from data wallets that integrate with national ID systems or mobile banking apps. Educational campaigns will be critical

to ensuring their widespread adoption.

These applications serve as control panels for individuals to store, manage, and transact with their personal data. They consolidate consents, track data flows, and interface with blockchain-based contracts or SSI credentials.

6. Comparative Case Studies: Global and Vietnamese Contexts

In summary, while global leaders offer mature frameworks for fair data value exchange, Vietnam's landscape presents both challenges and opportunities. Leveraging local strengths—such as a young digital population and strong fintech growth—Vietnam can leapfrog into ethical data governance by learning from global precedents and avoiding exploitative data paradigms.

These early efforts suggest a fertile ground for piloting innovative models that combine blockchain, SSI, and consent management in localized contexts.

- Although no comprehensive fair data-sharing model is yet operational in Vietnam, several startups and civic tech initiatives are exploring relevant solutions. For example:
 - TomoChain, a Vietnamese blockchain firm, has experimented with decentralized identity and data transparency protocols;
- The Ministry of Information and Communications has launched campaigns promoting personal data awareness and digital ethics.

6.1 Global Case Study: MyData Initiative (Finland)

To contextualize the application of fair data value-sharing models, this section examines comparative case studies from global and Vietnamese settings. These examples illustrate the varying degrees of maturity in implementing equitable data governance and offer lessons for policymakers and businesses in Vietnam.

6.2 Global Case Study: Solid Project (UK/MIT)

MyData demonstrates that fair data exchange is both technically feasible and socially desirable, provided there is strong institutional commitment and civil society engagement.

Key achievements include:

- Development of MyData Operator frameworks that provide standardized APIs for data portability;
- Integration of consent-based data flows across sectors including healthcare, education, and finance;
- Government support and EU-level interoperability alignment.

Finland's MyData initiative represents a leading example of citizen-centric data management. Established as a non-profit movement, MyData promotes the principle that individuals should be

empowered to access, control, and reuse their personal data. It encourages companies and governments to act as data stewards rather than data owners.

6.3 Vietnamese Case Study: Zalo and MoMo

Solid has been piloted by various firms in the UK and Belgium to demonstrate decentralized identity management in sectors such as insurance, job recruitment, and municipal services. While adoption remains limited, Solid underscores the importance of technical architectures that place users at the core of data transactions.

The Solid (Social Linked Data) Project, spearheaded by Sir Tim Berners-Lee, seeks to redesign the web by giving individuals control over their data through decentralized pods. Users decide which applications can access specific data fields and revoke permissions at any time.

6.4 Emerging Best Practices in Vietnam

There is growing consumer concern over data leakage and profiling. For instance, MoMo faced scrutiny in 2022 for unclear data-sharing agreements with third parties. This lack of transparency has sparked calls for stronger data rights and fairer compensation mechanisms.

In Vietnam, homegrown digital platforms such as Zalo (messaging) and MoMo (e-wallet) have become ubiquitous. These platforms collect vast troves of behavioral data but offer limited transparency regarding data usage or monetization. While they enable digital inclusion and service innovation, they exemplify the current asymmetry in data value distribution.

7. Ethical Considerations in Data Monetization

By embedding ethics into every layer of the data economy—from technical architecture to regulatory frameworks—Vietnam can set a precedent for just and sustainable digital development. The following section will translate these considerations into concrete legal and policy recommendations.

Finally, ethical data sharing requires robust governance structures. This includes oversight bodies, data ethics boards, public reporting standards, and mechanisms for citizen participation. In Vietnam, integrating ethical considerations into national AI and digital transformation strategies will be crucial.

7.1 Informed Consent and Digital Literacy

The monetization of personal data introduces profound ethical challenges that must be carefully addressed to prevent exploitation, inequality, and harm. As Vietnam seeks to develop fair data value-sharing frameworks, ethical considerations should be at the core of both technological design and policy formulation.

7.2 Exploitation of Vulnerable Populations

Designing simplified, multilingual, and culturally relevant consent mechanisms is essential. Visual cues, real-time consent dashboards, and gamified data-sharing prompts could be explored to improve user understanding and agency.

A foundational principle of ethical data monetization is informed consent. However, genuine informed consent is difficult to obtain in environments where digital literacy is low, user interfaces are complex, or terms and conditions are opaque. In Vietnam, where many users access digital platforms through mobile devices with limited functionality and attention spans, ensuring clarity and comprehension is critical.

7.3 Commodification of Identity and Autonomy

To mitigate this, ethical frameworks should include safeguards such as minimum data protection standards, compensation caps, and opt-out mechanisms without penalties. Government subsidies or community-led data cooperatives could also be explored to balance power dynamics.

There is a risk that monetization mechanisms may disproportionately affect economically disadvantaged or marginalized communities. Individuals under financial strain may be more inclined to trade privacy for immediate rewards, creating a new form of digital inequality. This "data poverty trap" raises serious questions about fairness and coercion.

7.4 Algorithmic Bias and Discrimination

Ethical data economies must therefore be grounded in principles of dignity, privacy by design, and proportionality. Data monetization should serve to enhance individual freedom and social good, not undermine them.

Turning personal data into a market commodity can reduce human identity to transactional attributes. This raises philosophical and legal concerns about personhood, autonomy, and the sanctity of private life. While economic participation is important, it should not come at the cost of dignity or psychological well-being.

7.5 Ethical Governance and Accountability

Ethical audits, bias testing, and participatory design processes are necessary to ensure that monetized data is not used in harmful or exclusionary ways. Companies must disclose how data is processed and establish grievance redressal channels for affected individuals.

Even in systems that involve fair value exchange, data usage can perpetuate bias if the underlying algorithms are discriminatory. For example, using shared data for targeted advertising, credit scoring,

or recruitment decisions may reinforce existing social prejudices—especially if the training data reflects systemic inequalities.

8. Policy and Legal Recommendations

By adopting a proactive and participatory approach to policymaking, Vietnam has the opportunity to become a regional leader in ethical digital governance. The next section presents a long-term roadmap for embedding human-centered data practices across the e-commerce sector and beyond.

Lessons from these pilots can inform broader legislative reforms and help tailor solutions to Vietnam’s unique socio-technical context.

To encourage innovation while managing risk, Vietnam should launch regulatory sandboxes for fair data value-sharing models. These sandboxes would allow companies and researchers to test new mechanisms—such as blockchain-based data contracts or SSI credentials—under relaxed regulatory oversight.

8.1 Legal Recognition of Personal Data Ownership

The operationalization of fair data value-sharing models requires an enabling legal and policy environment that supports innovation while safeguarding rights. This section outlines a multi-layered strategy for policymakers in Vietnam to foster a more equitable data economy.

8.2 Establishment of Data Intermediary Frameworks

This legal shift would enable enforceable data contracts, incentivize ethical data brokers, and empower consumers to seek redress in case of misuse.

A foundational reform is to legally recognize personal data as a form of personal property or digital asset. This would allow individuals to claim ownership over their data and contractually transfer or license its use under agreed conditions. Such recognition could be codified in civil law or introduced via specialized data protection legislation.

8.3 Consent and Transparency Standards

The law should set minimum operational standards, fiduciary duties, conflict of interest provisions, and consumer representation requirements.

Vietnam should introduce a regulatory framework to govern the operation of ethical data intermediaries such as data trusts and fiduciary brokers. These entities would be licensed to manage user data on behalf of individuals or groups, negotiate usage terms, and ensure transparent value distribution.

8.4 Digital Literacy and Inclusion Programs

A centralized data transparency platform, operated by a public agency, could aggregate disclosures from digital service providers.

Comprehensive rules governing consent, access, and data portability should be adopted. These may include:

- Mandatory pre-use disclosure of data purposes and benefits;
- Uniform consent formats and digital consent receipts;
- Right to withdraw or modify consent at any time;
- Obligatory data usage audits by independent bodies.

8.5 Institutional Coordination and Oversight

This ensures that participation in the data economy is equitable and not confined to digital elites.

Legal reform must be complemented by public investment in digital literacy, particularly among rural, elderly, and low-income populations. Programs should focus on:

- Raising awareness of data rights and risks;
- Teaching consent management skills;
- Promoting the use of privacy tools and data wallets.

8.6 Sandbox and Pilot Programs

In the Vietnamese context, the NDPA could be housed within the Ministry of Information and Communications but operate with functional independence.

A dedicated national data protection authority (NDPA) should be empowered to supervise compliance, adjudicate disputes, and coordinate inter-ministerial policies on digital transformation, cybersecurity, and consumer rights. The NDPA should also collaborate with regional bodies to ensure cross-border data flow standards.

9. Toward a Human-Centered Data Economy: A Roadmap for Vietnam

The final section provides a summary of key contributions and outlines areas for future research.

This roadmap reflects the reality that fair data value-sharing is not a single reform but a systemic transformation. Achieving a human-centered digital economy will require sustained commitment, agile governance, and inclusive stakeholder engagement over time.

- Position Vietnam as a regional hub for ethical data innovation and SSI technology development;
- Promote Vietnamese frameworks in international data governance forums such as APEC and the UN Internet Governance Forum;

- Establish a center of excellence for digital ethics, research, and capacity-building at a leading national university;
- Support ongoing civic tech innovation through open grants and accelerator programs.

9.1 Phase I (2025–2026): Foundation and Awareness

A long-term strategy to build a human-centered data economy in Vietnam must balance innovation with equity, sovereignty with interoperability, and participation with protection. This roadmap outlines actionable steps for public and private stakeholders over a phased timeline.

9.2 Phase II (2026–2028): Infrastructure and Legal Reform

- Conduct a nationwide audit of current data collection practices among e-commerce platforms and fintech services;
- Launch a national digital rights awareness campaign targeting students, small businesses, and rural populations;
- Pilot digital literacy modules in public schools and vocational training centers;
- Establish a multi-stakeholder task force on personal data sovereignty involving government, academia, civil society, and industry.

9.3 Phase III (2028–2030): Institutionalization and Market Incentives

- Enact comprehensive personal data protection legislation that enshrines ownership, consent, portability, and monetization rights;
- Introduce regulatory sandbox programs for fair data value-sharing experiments (e.g., blockchain-based consent platforms);
- Develop open-source consent management and SSI tools in Vietnamese and ethnic minority languages;
- Formally establish and resource a National Data Protection Authority with cross-sectoral mandates.

9.4 Phase IV (Beyond 2030): Global Integration and Leadership

- Operationalize ethical data brokerage platforms with public-private partnerships;
- Incentivize e-commerce companies to adopt fair data practices through tax relief, certification schemes, or data quality credits;
- Integrate fair data metrics into Environmental, Social, and Governance (ESG) reporting standards for publicly listed firms;
- Facilitate cross-border data cooperation agreements with ASEAN countries based on mutual privacy principles.

10. Conclusion and Future Research Directions

Ultimately, achieving data justice in the digital age is not merely a matter of technology or regulation—it is a societal imperative that demands collaborative action, foresight, and the courage to build systems that prioritize human dignity. The proposed models in this paper offer a blueprint for such a future—one where trust, fairness, and innovation coexist in the data economy.

Future research directions should include:

- Empirical testing of proposed models in pilot projects across sectors (e.g., retail, fintech, healthcare);
- Behavioral studies on consumer willingness to share data under different incentive structures;
- Legal feasibility assessments for implementing data ownership and fiduciary data brokers in Vietnam;
- Cross-country comparative studies to assess interoperability challenges and lessons learned;
- Development of quantitative metrics for evaluating fairness, transparency, and user agency in data transactions.

Policy and legal recommendations underscored the importance of recognizing personal data as a digital asset, establishing certified intermediaries, enforcing consent standards, and promoting digital literacy. The ethical section cautioned against commodification without safeguards and stressed the need for institutional accountability and inclusive design.

Drawing upon global precedents and local contexts, the paper emphasized that Vietnam is uniquely positioned to become a leader in ethical data innovation in Southeast Asia. By leveraging blockchain, SSI, and ZKP technologies—and embedding ethics, inclusivity, and legal safeguards—Vietnam can transition toward a human-centered data economy. Comparative case studies demonstrated the feasibility of such models, while a proposed national roadmap outlined concrete steps to scale fair data practices over time.

In response, we proposed a paradigm shift toward fair data value-sharing models that reposition individuals as active participants and rightful beneficiaries in the digital value chain. Three conceptual frameworks were presented: the Fair Data Exchange Model, the Smart Contract-Based Data Management Model, and the Trusted Data Brokerage Platform Model. Each offers unique opportunities and challenges, ranging from user empowerment and transparency to infrastructural and institutional complexity.

The accelerating digital transformation of the global economy—particularly within e-commerce—has raised urgent questions about the ownership, use, and equitable distribution of personal data value. This paper has examined the limitations of traditional data governance approaches, which often frame

users as passive data sources and emphasize regulatory compliance over empowerment.

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