ELMİ TƏDQİQAT Oktyabr 2026, Cild: 6, Sayı: 10, s. 174−182
SCIENTIFIC RESEARCH October 2026, Volume: 6, Issue: 10, pp. 174−182
DOI: https://doi.org/10.36719/2789-6919/64/174-182

Information as a Strategic Resource in Contemporary Society a Socio Philosophical Model of Responsible Value Creation

Olimxodjayev Fayyozxo‘ja

Abstract. *Information is frequently described as a strategic resource, but the analogy with material resources is incomplete. Information can be copied without depletion, becomes valuable through interpretation and use, and may generate public benefit and social harm at the same time. This article asks under what conditions information functions as a legitimate strategic resource in contemporary society. A structured conceptual review of twelve foundational academic and institutional sources was conducted across information philosophy, data studies, privacy theory, political economy, and digital governance. The sources were compared through five dimensions: value creation, epistemic quality, access, power, and accountability. The analysis distinguishes data, meaningful information, actionable knowledge, and strategic judgement rather than treating them as equivalent assets. It identifies four conditions of responsible strategic use: epistemic reliability, contextual legitimacy, capability-enhancing access, and accountable institutional stewardship. These conditions form an Information Stewardship Model that explains why technical accumulation alone does not create social value. Poor-quality data, opaque inference, excessive concentration, and weak correction mechanisms can convert an apparent asset into a source of vulnerability. Conversely, information produces durable value when institutions verify provenance, protect contextual privacy, broaden meaningful access, explain consequential uses, and preserve channels for correction. The article concludes that information should be governed neither as ordinary private property nor as an unrestricted public good. Its strategic status depends on a balanced institutional architecture linking innovation, rights, trust, and collective learning.*

Keywords: *information; strategic resource; data governance; information ethics; privacy; digital society; institutional stewardship*

Fergana State University, Fergana, Uzbekistan
E-mail: olimxodjaevf@mail.ru
Received: 29 April 2026; Accepted: 7 August 2026; Published online: 30 October 2026
© The Author(s) 2026. This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0).

Müasir cəmiyyətdə strateji resurs kimi informasiya: məsuliyyətli dəyər yaradılmasının sosial-fəlsəfi modeli

Olimxodjayev Fayyozxo‘ja

Xülasə. *İnformasiya çox vaxt strateji resurs kimi təqdim olunur, lakin onun maddi resurslarla eyniləşdirilməsi natamamdır. İnformasiya tükənmədən çoxaldıla bilir, dəyəri şərh və istifadə prosesində yaranır, eyni zamanda ictimai fayda və sosial zərər yarada bilər.*

Məqalə informasiyanın müasir cəmiyyətdə hansı şərtlər daxilində legitim strateji resursa çevrildiyini araşdırır. İnformasiya fəlsəfəsi, məlumat tədqiqatları, məxfilik nəzəriyyəsi, siyasi iqtisad və rəqəmsal idarəetməyə aid on iki fundamental akademik və institusional mənbə strukturlaşdırılmış konseptual təhlillə müqayisə edilmişdir. Mənbələr dəyər yaratma, epistemik keyfiyyət, çıxış, hakimiyyət və hesabatlılıq üzrə təhlil olunmuşdur. Tədqiqat məlumatı, mənalı informasiyanı, praktik biliyi və strateji mühakiməni bir-birindən fərqləndirir. Məsuliyyətli strateji istifadənin dörd şərti müəyyən edilir: epistemik etibarlılıq, kontekstual legitimlik, imkanları genişləndirən çıxış və hesabatlı institusional himayədarlıq. Bu şərtlər texniki toplanmanın öz-özlüyündə sosial dəyər yaratmadığını göstərən İnformasiya Himayədarlığı Modelini təşkil edir. Keyfiyyətsiz məlumat, qeyri-şəffaf nəticəçıxarma, həddindən artıq mərkəzləşmə və zəif düzəliş mexanizmləri görünən resursu zəiflik mənbəyinə çevirə bilər. Əksinə, mənşə yoxlanıldıqda, kontekstual məxfilik qorunduqda, mənalı çıxış genişləndirildikdə və düzəliş kanalları saxlanıldıqda informasiya davamlı dəyər yaradır. Nəticədə informasiyanın nə adi xüsusi mülkiyyət, nə də məhdudiyyətsiz ictimai nemət kimi idarə olunmasının yetərli olmadığı əsaslandırılır.

Açar sözlər: *informasiya; strateji resurs; məlumatların idarə edilməsi; informasiya etikası; məxfilik; rəqəmsal cəmiyyət; institusional himayədarlıq*

Introduction

Information is routinely called the oil, currency, or infrastructure of the digital age. Each metaphor captures part of its importance but can obscure its distinctive character. Oil is depleted when consumed, whereas information can be copied and used by many actors at once. Currency has a standard unit, whereas informational value varies with context, quality, interpretation, and timing. Infrastructure enables activity, yet information also shapes the goals, classifications, and decisions through which activity is organised. A defensible account of information as a strategic resource must therefore explain not only how information is accumulated, but how it becomes meaningful, actionable, legitimate, and correctable.

The growth of networked communication has intensified this question. Economic production, public services, scientific research, education, and everyday social coordination increasingly depend on data flows and digital systems. Castells (2010) describes a social morphology organised through networks, while Bell (1973) identified the expanding role of theoretical knowledge in post-industrial society. More recent analyses show that the capacity to collect and process data can support innovation, productivity, and public problem solving (Organisation for Economic Co-operation and Development [OECD], 2015). Yet the same capacity can intensify surveillance, asymmetrical influence, discrimination, and dependence on opaque systems (Zuboff, 2019).

The strategic-resource thesis is thus normatively ambivalent. It can direct attention to information quality, digital infrastructure, institutional memory, and knowledge-based decision making. It can also legitimise unlimited collection by treating every trace of human activity as extractable raw material. The language of resource management tends to privilege possession and optimisation, while questions of consent, privacy, epistemic justice, and public accountability appear as secondary constraints. Information ethics challenges this ordering by treating the informational environment as a domain in which human agency and social relations are constituted, not merely an inventory available for exploitation (Floridi, 2013, 2014).

A second difficulty concerns the unstable relationship among data, information, knowledge, and judgement. These terms are often merged in policy and management discourse. Data may be inaccurate, incomplete, or stripped of the context that gives it meaning. Information may be relevant but still fail to justify a conclusion. Knowledge requires warranted interpretation, while strategic judgement additionally requires an understanding of goals, trade-offs, uncertainty, and responsibility. Large volumes of data therefore do not automatically produce knowledge or sound decisions (Kitchin, 2021). Quantity can even conceal uncertainty by making weak inferences appear technically authoritative.

This article asks: under what conditions does information function as a legitimate strategic resource for contemporary society? Its purpose is to develop a socio-philosophical model that connects value creation with epistemic reliability, rights, human capability, and institutional accountability. The article rejects two simplifications: that more information is always better, and that control over information is equivalent to strategic capacity. It argues instead that information acquires durable strategic value only when institutions can verify it, interpret it contextually, distribute its benefits fairly, and correct its harmful uses.

Materials and Methods

The study uses a structured conceptual review rather than an empirical survey. Twelve foundational academic and institutional sources were selected purposively across five intersecting fields: the information society, data studies, information ethics, privacy theory, and public data governance. The selection includes works that explain the historical growth of information-based social organisation, the distinctive properties of data and information, the political economy of extraction, and institutional principles for responsible use. The aim was not bibliometric completeness but conceptual coverage of the central tensions in the research question.

Each source was examined through five analytical dimensions. Value creation concerned the mechanism through which information generates economic, administrative, scientific, or social benefit. Epistemic quality concerned accuracy, provenance, relevance, interpretation, and uncertainty. Access concerned who can obtain, understand, and use information. Power concerned the ability to collect, classify, predict, and influence. Accountability concerned consent, transparency, contestability, remedy, and institutional responsibility. A comparative matrix was used to identify areas of convergence and contradiction.

The analysis proceeded in three stages. First, the resource metaphor was tested against the non-rival, context-dependent, and relational properties of information. Second, a value chain was reconstructed from raw data to strategic judgement, with failure points identified at each transition. Third, normative and institutional conditions were synthesised into an Information Stewardship Model. The model is analytical rather than causal: it proposes relationships to be examined empirically and does not claim measured effects for any specific country or organisation.

No empirical survey findings are used in this study. A defensible survey-based claim would require a documented questionnaire, sampling frame, fieldwork dates, descriptive statistics, data-access statement, and appropriate ethical information. In the absence of a verifiable dataset meeting those conditions, the conclusions in this article are explicitly limited to conceptual synthesis and documented institutional principles.

AI-assisted drafting disclosure: generative AI was used to assist with English translation, structural organisation, and language editing. The author remains responsible for verifying all arguments, references, and formulations before submission.

Results

1. Information Is a Relational Resource

The first result is that information cannot be governed adequately through the logic of possession alone. Its value is relational: the same informational content may be decisive in one setting, irrelevant in another, and harmful when removed from context. A weather observation, health record, location trace, and historical archive have different value structures because their users, purposes, temporal horizons, and risks differ. The strategic importance of information therefore lies not in its mere existence but in the institutional capacity to connect trustworthy content to legitimate action.

Information also differs from conventional resources because use does not necessarily consume it. This non-rival feature supports reuse, cumulative knowledge, and open access. At the same time, uncontrolled access can expose persons and communities to surveillance or manipulation. Hess and Ostrom (2007) show why knowledge resources require governance arrangements that avoid both enclosure and unmanaged degradation. The relevant scarcity is often not the informational object itself but attention, interpretive competence, trustworthy institutions, and the capacity to distinguish relevant evidence from noise.

The resource metaphor is therefore useful only after qualification. Information is an asset when its provenance is known, its meaning is preserved, and its use serves a defensible purpose. It becomes a liability when poor quality is amplified through automated decisions, when access is concentrated without accountability, or when retention exceeds the purpose that justified collection. Strategic value and strategic risk are generated by the same socio-technical system.

2. From Data Accumulation to Strategic Judgement

The second result is a four-stage distinction among data, information, knowledge, and strategic judgement. Data are recorded differences, measurements, traces, or symbols. They become information when organised in relation to a question or context. Information supports knowledge when claims are interpreted, justified, and connected to prior understanding. Strategic judgement arises when knowledge is applied to competing goals under conditions of uncertainty and responsibility. Each transition adds meaning, but also creates opportunities for distortion.

Kitchin (2021) demonstrates that data are never simply given; they are produced through choices about what to measure, how to classify, and which cases to exclude. Floridi (2013) likewise emphasises the semantic and ethical dimensions of information. A technically correct dataset may still be strategically misleading if the categories encode outdated assumptions, if the sample omits vulnerable groups, or if the decision context has changed. Epistemic reliability consequently requires more than error-free storage. It requires documented provenance, fitness for purpose, explicit uncertainty, and mechanisms for revision.

The distinction also exposes why artificial intelligence does not eliminate human judgement. Machine-learning systems can detect regularities at a scale beyond unaided cognition, but model outputs depend on training data, objective functions, thresholds, and deployment conditions. UNESCO (2021) places human dignity, oversight, fairness, transparency, and accountability at the centre of responsible AI governance. Strategic decisions remain normative because they distribute benefits, burdens, attention, and risk. Computational power can inform such decisions but cannot determine the legitimate ends of public action.

3. Strategic Value Depends on Epistemic Quality

The third result is that information quality is not a preliminary technical issue but a constitutive element of strategic value. Decisions based on stale, unrepresentative, or decontextualised information can produce greater harm precisely because they are applied at scale. OECD (2015) documents the potential of data-driven innovation while also identifying challenges involving privacy, access, skills, and measurement. The value of faster analysis therefore depends on whether the underlying informational process is reliable enough for the decision at stake.

Epistemic quality contains at least five elements. Accuracy concerns correspondence between records and the phenomena they represent. Completeness concerns whether relevant cases and variables are missing. Provenance concerns how information was produced and transformed. Interpretability concerns whether decision makers and affected persons can understand the basis and limits of a conclusion. Correctability concerns whether errors can be reported, investigated, and repaired. These elements are interdependent: accurate data without provenance may be untrustworthy, while transparent data without correction can preserve known harm.

The strategic importance of correction is frequently underestimated. Organisations often treat correction as evidence of failure, yet systems that cannot revise their records or assumptions are epistemically fragile. Institutional learning requires visible error pathways, version histories, independent review, and incentives to disclose uncertainty. Information becomes strategically valuable when it improves the capacity to learn, not when it merely confirms existing priorities.

4. Contextual Legitimacy and Privacy

The fourth result is that lawful collection does not by itself establish legitimate use. Information disclosed for one purpose may become harmful when transferred into another context. Nissenbaum (2010) explains privacy through contextual integrity: informational practices are appropriate when they respect context-specific actors, attributes, and transmission principles. This account is particularly useful for strategic information systems because it moves beyond the weak assumption that formal consent authorises every downstream use. Contextual legitimacy asks four questions. Was the information obtained under conditions that respected agency? Is the new purpose compatible with the social context in which the information was produced? Are the recipients and decision rules appropriate? Can affected persons contest harmful interpretation or reuse? These questions do not prevent innovation. They make innovation institutionally credible by linking secondary use to purpose, proportionality, and remedy.

The political economy of data extraction makes this requirement urgent. Zuboff (2019) analyses business models that convert behavioural data into prediction and influence while concentrating knowledge about populations in private organisations. The resulting asymmetry is not simply a privacy problem; it is a strategic distribution of power. Actors who can observe others without reciprocal visibility acquire advantages in agenda setting, classification, and behavioural intervention. Responsible information governance must therefore examine who knows, who is known, who can act on the knowledge, and who can challenge the action.

5. Capability Enhancing Access

The fifth result is that access should be measured by effective capability rather than formal availability. A dataset may be publicly downloadable yet unusable to citizens who lack connectivity, language support, digital skills, time, or interpretive assistance. Sen’s capability approach evaluates social

arrangements through the real freedoms people can exercise (Sen, 1999). Applied to information, this means that strategic value depends on whether individuals and institutions can convert access into understanding, participation, and beneficial action. Capability-enhancing access has three dimensions. Material access includes infrastructure, devices, and affordability. Cognitive access includes literacy, explanation, and the ability to assess credibility. Institutional access includes the right and practical opportunity to obtain relevant records, reasons, and remedies. Digital inclusion policies that address only connectivity leave the second and third dimensions unresolved. Conversely, unrestricted disclosure can injure privacy or security. Access must therefore be differentiated by purpose and accompanied by protective rules.

The World Bank (2021) frames responsible data use through a social contract that seeks greater value, equitable benefit, and safeguards against misuse. This formulation captures the public dimension of information strategy. Public value is not created merely when institutions possess more data; it is created when people receive better services, gain meaningful voice, and are protected from avoidable informational harm. Distribution is therefore part of value creation, not an issue considered after efficiency has been achieved.

6. The Information Stewardship Model

The synthesis produces an Information Stewardship Model with four linked conditions: epistemic reliability, contextual legitimacy, capability-enhancing access, and accountable institutional stewardship. Stewardship is preferred to ownership because it emphasises continuing responsibility for quality, use, protection, and correction. The model does not deny property interests or organisational control. It places them within a wider structure of duties owed to affected persons and to the integrity of the informational environment.

Table 1
The Information Stewardship Model developed in this study

Condition	Strategic question	Required practice	Failure mode
Epistemic reliability	Can the claim be trusted for this decision?	Provenance, quality checks, uncertainty, correction	Scaled error and false confidence
Contextual legitimacy	Is this use appropriate to the original context and purpose?	Purpose limitation, proportionality, privacy, contestability	Function creep and surveillance
Capability enhancing access	Can relevant groups convert access into agency?	Infrastructure, literacy, explanation, usable remedies	Exclusion despite formal openness
Accountable stewardship	Who bears responsibility throughout the information life cycle?	Defined roles, audit, oversight, retention limits, public reporting	Concentrated power without answerability

The four conditions operate as a system. Reliable information used illegitimately remains harmful. Legitimate purposes supported by poor-quality data remain ineffective. Open access without capability can reproduce inequality, while capability without accountable stewardship can make individuals more exposed to institutional power. The model therefore rejects single-metric evaluation. Strategic information systems should be judged by their combined capacity to create value, protect agency, distribute benefit, and learn from error.

The model also clarifies that cybersecurity is one component of stewardship rather than the whole of information governance. Confidentiality, integrity, and availability are indispensable, but a secure system can still be unfair, opaque, or epistemically weak. Conversely, an ethically ambitious system that lacks technical security cannot protect the rights it recognises. Technical, epistemic, legal, and moral requirements must therefore be designed together.

Discussion

The results refine the claim that information is the decisive resource of contemporary society. The claim is plausible only if "resource" denotes an institutionally cultivated capacity rather than a stockpile. Information does not possess stable value independently of questions, users, contexts, and decision rules. Strategic capacity is the ability to transform informational inputs into justified and legitimate action while preserving the possibility of correction.

This interpretation brings together two traditions that are often separated. Information-society and economic accounts emphasise productivity, network effects, innovation, and knowledge-intensive organisation (Bell, 1973; Castells, 2010; OECD, 2015). Information ethics and privacy theory emphasise dignity, contextual norms, agency, and the moral status of informational relations (Floridi, 2013; Nissenbaum, 2010). The Stewardship Model shows that these are not external agendas. Trust, contextual legitimacy, and correction directly affect the quality and durability of strategic value.

The model also challenges the assumption that data concentration guarantees institutional intelligence. Concentration can create technical economies of scale, but it may reduce plural interpretation, conceal error, and weaken independent scrutiny. Distributed access can support innovation and accountability, yet it can also increase privacy and security risks. The proper design question is therefore not centralisation versus openness in the abstract. It is which functions require controlled concentration, which benefits require wider access, and which safeguards make each arrangement answerable.

For organisations, the findings imply a life-cycle approach. Before collection, institutions should specify a legitimate purpose and identify affected groups. During collection, they should document provenance, minimise unnecessary capture, and test representation. During analysis, they should disclose uncertainty, examine bias, and preserve human review for consequential decisions. During use, they should explain relevant decisions and provide contest and remedy. During retention or deletion, they should apply time limits and verify that derived copies are governed consistently. Strategy begins before data acquisition and continues after a model has been deployed.

For public policy, information literacy should likewise be treated as more than technical proficiency. It includes the capacity to assess source credibility, recognise uncertainty, understand how classification affects people, and exercise rights concerning personal and public information. Such literacy strengthens human capability and institutional resilience. It also reduces the risk that information abundance will be mistaken for knowledge.

The approach remains compatible with innovation. UNESCO’s framework for AI ethics does not reject advanced systems; it requires that their development and use remain connected to dignity, fairness, oversight, and environmental and social well-being (UNESCO, 2021). Similarly, the World Bank (2021) and OECD (2015) link data value to governance and public benefit. Responsible constraints should therefore be understood as conditions for sustainable innovation rather than obstacles added after technical design.

A practical evaluation can be organised around four tests. The epistemic test asks whether an informational claim is sufficiently reliable for its intended consequence. The legitimacy test asks whether collection and use respect context, purpose, and agency. The capability test asks whether access expands real opportunities rather than formal availability alone. The accountability test asks whether responsibility, review, and remedy remain identifiable throughout the information life cycle. Failure in any test should trigger redesign, not merely a communication response.

Limitations

This study has three limitations. First, it is a conceptual review of twelve influential sources and does not claim comprehensive coverage of information science, cybersecurity, data protection law, or artificial intelligence governance. Second, the Information Stewardship Model proposes analytical conditions but does not measure their causal effects. Application requires indicators tailored to sector, institutional mandate, and risk level. Third, the article discusses contemporary society at a general level. Cultural expectations, legal systems, administrative capacity, and patterns of digital inequality may alter how the four conditions are implemented. These limits prevent unsupported generalisation and define the agenda for empirical testing.

Future Research

Future research should operationalise the four conditions and compare information systems across public administration, education, health, finance, and digital platforms. Case studies can trace how provenance and correction affect decision quality. Surveys and experiments can test whether meaningful explanations improve warranted trust and contestability. Distributional analysis can examine who obtains benefits and who bears privacy or classification risks. Research should also identify cases in which deletion, non-collection, or decentralised governance produces greater strategic value than continued accumulation.

Conclusion

Information has become central to social coordination, innovation, governance, and institutional learning. It is therefore reasonable to call it strategic, but misleading to treat it as an ordinary material asset. Its value is relational, non-rival in use, dependent on interpretation, and inseparable from the distribution of power. Data volume and computational capacity are not sufficient indicators of informational strength.

The article identifies four conditions under which information produces legitimate and durable strategic value: epistemic reliability, contextual legitimacy, capability-enhancing access, and accountable institutional stewardship. Together they form an Information Stewardship Model that connects innovation with rights, trust, and correction. The model explains why poor data, opaque inference, unequal access, and concentrated control can turn an apparent resource into systemic vulnerability.

The central conclusion is that information strategy should not begin with the question of how much can be collected. It should begin with the purpose to be served, the evidence required, the persons affected,

and the institution that will answer for error. Information becomes a strategic resource when it enlarges society's capacity to understand, decide, cooperate, and revise action without sacrificing human agency.

References

Bell, D. (1973). *The coming of post-industrial society: A venture in social forecasting*. Basic Books.

Castells, M. (2010). *The rise of the network society* (2nd ed.). Wiley-Blackwell.

Floridi, L. (2013). *The ethics of information*. Oxford University Press.

Floridi, L. (2014). *The fourth revolution: How the infosphere is reshaping human reality*. Oxford University Press.

Hess, C., & Ostrom, E. (Eds.). (2007). *Understanding knowledge as a commons: From theory to practice*. MIT Press.

Kitchin, R. (2021). *The data revolution: A critical analysis of big data, open data and data infrastructures* (2nd ed.). SAGE Publications.

Nissenbaum, H. (2010). *Privacy in context: Technology, policy, and the integrity of social life*. Stanford University Press.

Organisation for Economic Co-operation and Development. (2015). *Data-driven innovation: Big data for growth and well-being*. OECD Publishing. https://doi.org/10.1787/9789264229358-en

Sen, A. (1999). *Development as freedom*. Alfred A. Knopf.

UNESCO. (2021). *Recommendation on the ethics of artificial intelligence*. https://unesdoc.unesco.org/ark:/48223/pf0000381137

World Bank. (2021). *World development report 2021: Data for better lives*. https://doi.org/10.1596/978-1-4648-1600-0

Zuboff, S. (2019). *The age of surveillance capitalism: The fight for a human future at the new frontier of power*. PublicAffairs.

Declarations

Conflict of interest: The author declares no conflict of interest.
Funding: No external funding was received for this study.
Data availability: No original dataset was generated or analysed because this is a conceptual study.
Ethics statement: Ethics approval was not required because the study involved no human participants, personal data, or animal subjects.