

# Tracing Two Faces of Extended Visibility: A Bibliometric Analysis of Transparency Discussions in Social Sciences

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## Research Article

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# Abstract

Modern governance is the product of constant efforts to make the entire society visible, calculable and manageable. Transparency has emerged as the central ethics to manage public visibility in market and governance. Its celebration or refusal has been associated with technological and political evolution. Using bibliometric analyses of academic literature concerning transparency, this paper traces the interactions of the ethics of transparency with external environments. Guided by historiography and co-occurrence analyses, I map out the major shifts in academic attention and thematic associations related to the ethics of transparency. The modern aspiration of more visibility has been prominent in the finance market, corporate management, public governance, and policy communication. The greater visibility has been associated with accountability, anti-corruption, trust, and participation, as the cure for information asymmetry and power disparity. However, the extended visibility may lessen the human capacity to apprehend reality, which concerns the recent discussions of transparency in higher education, policy communications, and new virtual spaces. By contextualizing the primary themes in transparency discourse, I summarize the three sources of the new risks embedded in extended visibility: the organizational operations decoupled from the intended goals of transparency; the uncovered power relations in the politics of disclosure; and blind reliance on decontextualized data.

# Main Text

Vision has been the most privileged sense in modern civilization. As the term 'Enlightenment' demonstrates, the image of light has been celebrated as a sign of truth and liberation and making society more visible has been a significant aspect of constructing modern governance (Cooper 1997). Meanwhile, full visibility has been considered the most effective tool for surveillance and social control. As transparency emerged as one of the primary ethics to manage public visibility, its celebration or refusal has been associated with varying technological advancements and political dynamics. Extensive visibility has been associated with diverse goals of modern governance, such as accountability, openness, fairness, and democracy, which have generated explosive and contentious politics of disclosure. The ever-enhanced technology in tracking, recording and analyzing a wide range of human emotions, behaviors, and interactions have intensified the ethical dilemmas involved in regulating visibility.

The views of transparency have been divided constantly between celebration and suspicion of the ethics, and hence have formed two distinctive epistemological legacies and discursive paths. The modern celebration of transparency is based on the confidence in the human capacity to understand self, others, and the world. Rousseau argued that transparency could be achieved by banishing masks, obstacles, and opacity (Starobinski 1988). The open communications between individuals via interpersonal transparency were understood as a prerequisite for sharing meaning, which is the foundation of knowledge (Geroulanos 2019). With this confidence in its feasibility, transparency became a primary instrument of modern governance that generates powerful incentives to trigger positive chains of actions (Fung et al. 2007, 38). Adding more information through disclosure would allow informed consumers,

investors, citizens, and voters to make rational decisions, which leads to interpersonal transactions that are more accountable, fair, efficient, and democratic. As transparency would affect power dynamics in a way that diffuses power, institutionalized disclosures could ease the traditional ills of information asymmetries and allow ordinary citizens or employees to make more legitimate claims that grant them bargaining advantages (Rosenfeld and Denice 2015). The administrative reform movements in the early 21<sup>st</sup> century were intended to provide the public with more information. The public ability to see and comprehend information serves to reduce the power gap between government and the public, and makes the government more accountable.

The 1960s was a cultural and political watershed in institutionalizing the value of transparency and openness. During the Cold War era, transparency and freedom of information became a political agenda that sent a strong signal in selling the moral superiority of “free world,” and the Freedom of Information Act was promoted within this Cold War rhetoric. In the United States, the tug war among executives, congress, and the media in pursuit of their own interests, contributed to legalizing the freedom of information (Schudson 2015, 46). Further, the support for the ideals of transparency was often used to confirm a party’s identity. Those from the left associated transparency with the libertarian right, and moderates or conservatives used the norm to enforce a close scrutiny of government spending (Schudson 2015). Transparency became an essential tool to cure the problem of corruption, and was associated with the public values of openness, trust, accountability, participation, and democracy. The belief in these ethics has driven people to strive for total visibility, identification, and openness.

In contrast to modern approval of, and confidence in, transparency, there has been a deep-rooted suspicion of the possibility of complete self-knowledge, interpersonal understanding, and pure interpretation of reality. This view assumes that individuals and realities are rarely able to be comprehended transparently because of their opacity and complexity (Geroulanos 2019, 51). This suspicion and doubt of transparent apprehension has generated a distinctive discursive path for transparency, which highlights the tyrannical effects of excessive visibility. George Simmel, a classical sociologist, emphasized secrecy’s essential function in maintaining the trust required for interpersonal relationships and social maintenance. Knowing too much about each other would prevent people from building trust because it generates excessive frustration, disappointment, and distrust (Simmel 1906). Simmel’s insight has great relevance for the current critiques of full transparency and openness. Full revelation of government activities, professional-client relations, and personal lives would promote frustrations that damage trust. Full disclosures make differences, discord, and disillusionment more visible, and thus generate fear and anxiety disproportionate to actual conditions in the world.

The unique intellectual environment of post-war France in the late 1960s cultivated a sensitivity to the destructive potential of full visibility. The ostensible transparency enforced by state apparatus became the target of anxiety of intellectuals. The critiques of transparency were heightened, such that it was treated as one of the major functions of totalitarian regimes that enforce the “mirage” of an open society. Althusser identified the denial of privacy as the feature of ideological state apparatuses (Geroulanos 2019, 341) and transparency and total visibility began to be associated with surveillance and

totalitarianism during the 1970s. With this skeptical legacy, the initiatives of transparency involved in politics, societal projects, or government reforms, were followed by disenchantment and suspicion, which suggests that full transparency is not only a modern mirage of untruth or worse than truth, but also a tool for surveillance.

This paper intends to trace the interactions of the ethics of transparency with the external environments over the past decades. During the past half century, transparency ethics and practices emerged and developed in government, the market-place, and mass media, ostensibly to enhance public visibility. The application of transparency ethics to social realities has included conflicting processes, pertaining to the question of who should contain what kind of information for what purposes. The various initiatives on public visibility have not parade under the same banner, since the benefits and risks of a “transparent and open society” are complex far beyond its coherent objectives and values. Political dominance, cultural changes, and technological advancements have affected the evolution of transparency ethics.

Bibliometric analyses of the academic literature related to transparency help us capture these interactions in a more systematic way. Bibliometrics is a quantitative method of academic outputs that identifies meaningful links and clusters between authors, journals, keywords, and other meta information (Liang and Liu 2018, 3). Its use has extended gradually because of the infeasibility of conventional literature reviews to cover the rapid growth in academic publications’ digitized data (Aria and Cuccurullo 2017). Guided by historiography and co-occurrence analyses, I map out the major shifts in academic attention, domains, and concerns related to transparency.

### **Historiographic Analysis: The Discursive Evolution of Transparency**

The ideal of transparency signifies different sets of meanings and implications over time, societies, and fields. This section maps out the clusters of the most influential works in the transparency literature that have contributed to transferring and linking ideas on transparency. A historiographic analysis ranks an article’s importance by identifying the paths that citations use most frequently to convey ideas over time, presenting the major steps in scholarly attention to the subject (Henrique et al. 2018). Reviewing how these cited works are related helps us understand the initiation, extension, and shifts in the discussion of transparency over time.

For this analysis, I retrieved data pertaining to transparency from the Core Collection of the Web of Sciences, which is a curated collection of the most trusted index for scientific and scholarly research. Because this study concerns transparency as an aspect of social ethics, the search was limited to the social sciences study categories. Any journal article that include the term ‘transparency’ in its title, author keywords, or abstract was included in the sample. The search was conducted on November 10, 2018, and yielded 10,066 documents published from 1970 to 2018. I used the *bibliometrix* in R-package and VOSviewer to conduct the direct citation and co-word analyses.

Using *bibliometrix*, I selected the top 25% of the publications cited most in the sample documents which was assumed to be an appropriate size to cover all of the influential works. Their citation links were

identified to present the relations from the citing to cited work. Given the limited space for visualization, the top 50 publications cited most were selected according to the highest cumulative sum of the links' weights, which indicated the paths used most frequently to transmit ideas from old to new articles (for main path analysis, see Henrique et al. 2018). <Fig. 1> presents the map of the key publications' chronological citation linkages.

Based on the map in <Fig. 1>, I tabled the clusters of the major articles that are correlated highly as those that form discursive communities. These clusters are numbered in chronological order of their initiating publications. Clustering the articles that contributed most suggested the evolving concerns with transparency.

### *Cluster 1: Transparency and market liquidity*

The first cluster in the influential articles discussed the concept of transparency in finance and business. Their primary concern was whether the rule of transparency facilitates or constrains market liquidity. In the stock market, transparency is defined as the extent to which market makers can observe the size and direction of the current order flows. Greater transparency makes participants more informed and confident, and increases market liquidity (Pagano and Roell 1996). Not only the extent, but also the speed of transparency, became the subject of debate. Immediate publication of larger traders' details constrained liquidity by exposing market makers to the risk of adding large amounts of inventory in a system of competing dealers. Then, they are constrained from revealing their hand to the market (Financial Times, June 12, 1995). On the other hand, a government agency, such as the Office of Fair Trading in the U.K. supported the immediate last-trade publications because the delayed information would benefit those who have better access to information and allow them to reap extra profit with a consequent loss for other participants (Gemmill 1996). This interest in the effect of transparency on liquidity evolved into the question of who wins and loses from the initiatives of market transparency (Bloomfield 1999). More recent articles have emphasized how transparent reporting of price and trade actions reduces transaction costs significantly and benefits traders (Bessembinder et al. 2004; Edward et al. 2006)

### *Cluster 2: Transparency and governance effectiveness*

The second cluster of influential articles concerns governance effectiveness, and asks whether revealing and sharing more information necessarily enhances public trust and organizational capacity. In international regimes, the demand for, and the supply of, information to evaluate the performances of government and non-government actors, enhance regimes' effectiveness by identifying failures in sanctioning and success in rewarding (Mitchell 1998). The discussion has evolved into specifying the conditions under which transparency initiatives actually work. Making more information visible would be useless without reliable operations of credible education, free media circulation, and fair elections (Lindstedt and Naurin 2010). Democratic governments, where the voters' will is reflected in competitive elections, are more willing to release information and data relevant to policy (Hollyer et al. 2011). This

cluster is the product of a series of open government initiatives that were associated with anti-corruption campaigns and open-data initiatives.

### *Cluster 3: Transparency and its masking reality*

The two discursive themes above were grounded in a highly pragmatic view of transparency as tool for market liquidity or effective governance. Since the early 2000s, a renewed view of transparency has emerged to question directly its substantial forms of existence and emphasize its potentially destructive effects. Transparency initiatives were designed to transform invisible qualities into visible indicators that were used to audit and evaluate individuals and organizations' performance. Higher education invited the initial criticism of capturing "transparent reality" by adding visibility. For example, in universities, adding more information related to academic and teaching performance masked crucial dimensions of realities that are not conveyed easily with numeric indicators. In fact, the techniques used to describe those realities even distorted them, or at best, achieved highly selective objectification, which fails to capture "transparently" how universities and departments really work (Strathern 2000). This skepticism led to highlighting the involvement of power relations and conflicting interests. The measurement indicators must be constructed in the power relations between evaluators who measure the performance to control and performers who must be self-defensive in their subjection to evaluations (Roberts, 2009). The cluster of these works questioned the existing forms and techniques of "transparent" measurements and highlighted their less than perfect and artificially constructed qualities.

### *Cluster 4: Transparency and its dysfunctions*

The fourth cluster of influential articles specified the costs and dysfunctions of transparency in public governance and policy communications. Constructing transparency as a mean to secure organizational reputation and public trust may generate suboptimal outcomes. For example, when all of their conduct is made public by the rule of transparency, central banks tend to lose a grip on their policy directions by serving public expectations to secure their reputations. When excessive transparency is required to ensure banks' credibility, it leads to less optimal or even counterproductive results, such as policies of higher inflation and employment variability (Faust and Svensson 2001). This line of arguments suggests the positive function of secrecy in effective decision-making. When representatives negotiate in public, they are highly motivated to signal their loyalty to their constituents, and reluctantly ignore the information about alternative decisions' desirability. When they know that they are observed, they will be less inclined to reach a compromise even when it is desirable. In summary, the close and direct observation of negotiations and decision making processes narrows the negotiators or decision makers' room to maneuver for optimal outcomes (Stasavage 2004). Shining too much light on the policy processes encourages agents to behave based upon the principal's expectations about what a good agent should do, rather than on the true estimation of what actually helps achieve the principal's best interest (Prat 2005). Despite universal acceptance in both academics and governance, sharing information in the name of transparency may distort larger audiences' understanding of what is really taking place in organizations (Etzioni 2010).

### *Cluster 5: Transparency, technology, and trust*

The most recent cluster of influential works introduced technology and culture into the examination of transparency's effect on public trust. With the remarkable increase in Computer-Mediated Transactions (CMT), a debate has emerged about whether the new Information Communication Technology (ICT) enhances or weakens trust in governance. Supporters of ICT have stated that CMT generate greater and better quality information, and thus contribute to greater trust in governance. In contrast, skeptics have criticized that ICT generates unidirectional, unstructured, and decontextualized information that damages social trust ultimately by generating a flood of unsorted misinformation. The numerical, yet decontextualized data, can direct public attention to narrow and not necessarily important phenomena (Meijer 2009). Although advanced ICT reduces the barriers and cost for citizens to access data related to government actions and generates less room for secrecy and cover-ups, ICT-enabled public interactions create the potential for new modes of corruption and constrained competition because they benefit government agents or experts who know how to operate ICTs (Bertot et al. 2010).

Not only technology, but also cultural ethos, influences the way transparency affects citizens' trust in government. Negative experiences with a government have a much stronger effect on citizens' trust in government than do positive experiences. Many information users are unable to digest complex information, and are subjected often to panics, frustration, and rages. This negativity has been found to be more pronounced in a country with cultural profiles of high power distance like South Korea. In this cultural context, people view their well-being as more contingent on the activities of the government thus be sensitive to the information exposed by transparency rules. On the other hand, transparency generates trust more in in the short power distance culture where transparency serves more as power-reducing mechanism to render the powerful actors more accountable (Grimmelikhuijsen et al. 2013).

### **The Conceptual Associations in the Transparency Literature**

Transparency is an inherently malleable concept that is associated easily with diverse themes. I used co-occurrence analysis to identify these thematic associations. The analysis is intended to capture the interaction among the pertinent concepts by assuming that if two or more keywords appear together often in articles, they are conceptually related. Thus, it measures frequency of co-occurrences among pertinent concepts to identify the primary thematic clusters in a research field (Cobo et al. 2011). In the same sample articles that I used for the historiography analysis, I conducted a co-occurrence analysis using VOSviewer on the author keywords. There were total 18,650 author keywords from the sample articles. The occurrence threshold of the author keywords was set at 25 and 89 keywords were brought into a visualization. Keywords' co-occurrence was analyzed by creating a co-occurrence matrix that shows the frequency of two keywords that appeared together in an article. For each of the 89 keywords, the total strength of the co-occurrence links with other keywords are calculated to identify the major thematic clusters <Figure 2>. The nodal keywords with the highest strength of association include transparency, accountability, corporate governance, corruption, governance, ethics, disclosure, trust, regulation, and democracy.

<Figure 2> visualizes the major thematic clusters in different colors and the strength of the association with other keywords in the size of circles. The larger a circle, the more a keyword co-occurred in the transparency publications. The distance between the two keywords indicates the association strength calculated by the ratio between the observed and expected number of co-occurrences (Van Eck and Waltman 2014). Keywords with a high correlation are more likely to be placed in the same cluster (Hu & Zhang 2015), while those in a particular cluster often co-occurred together with those in other clusters as well. <Table 2> presents 8 clusters of the 89 author keywords that represent the distinctive thematic contexts of academic discussions on transparency. I grouped these into the three main themes, drawing from the distances between those clusters in the map and referring to the outcomes from the historiography above.

### *Theme 1: Government information politics*

A combination of the three clusters (blue, orange, olive) displays the conceptual associations related to the politics of governance information. Its nodal concepts include transparency, accountability, corruption, governance, democracy, regulation, participation, good governance, open government, and e-government. These concepts have been used most to explore the politics of information to make governance accountable and the potentials and dysfunctions of the new virtual governance spaces. As the number of stakeholders and their demands for information have expanded, previously inaccessible and uninteresting information began to be made available to the public under the renewed notions of good government, civic participation, and democracy, and open data became major tools and goals in contemporary governance. Extending visibility, monitoring, and availability to public review began to constitute the new version of democracy even more with the emergence of virtual space of governance.

### *Theme 2: Corporate information disclosure*

The second theme that emerged from the three clusters (green, mint, purple) demonstrates the growing interest involved in corporate information disclosure, in which transparency is realized in the form of such disclosure. This is understood as a tool to achieve the goals of liquidity, corporate social responsibility, credibility, reputation, and public trust. Further, it is assumed to solve the problem of information asymmetry, financial crises, uncertainty, or lack of competition. Financial reporting and disclosure have become more accurate, extensive, and utilized widely because of the explosive demands following the public frustration concerning financial crises or scandals. With the increasing complexity in the business environment, its diverse players, such as government authorities, legislative players, investors, and the media, began to call for more sophisticated corporate information. Transparency in corporate reporting became one of the greatest concerns in emerging global markets such as China and India to make them more accountable and less corrupted.

### *Theme 3: Conflicting ethics of visibility*

The third theme in the red and brown clusters shows the most skeptical approach toward transparency, and reveals the primary ethical concerns involved in implementing it. First, in academics and higher

education, transparency initiatives for college accountability have intruded student privacy. Transparency became the primary ethics in qualitative research under the principle that researchers should render the essential parts of their research, such as data collection and analysis, visible to fellow scholars to secure the research's validity. Second, the keyword of ethics frequently occurred together with those of privacy, Internet, social media, big data, surveillance, and health technology assessment. Transparency has been brought into more contentious contexts when reality is extended into the virtual spaces of social media. The constant flow of abundant personal data dissects the surface of reality into more distinctive dimensions for monitoring and management, which increases the sources of intrusion into private domains.

## **Concluding Discussion**

### **Utopia and Dystopia through Extended Visibility**

The modern aspiration to achieve an enlightened utopia was fostered by the belief that realities can be made more calculable and predictable and people more accountable and rational under the more lights. ICT technologies have extended visibility incredibly because of the overabundance of information that is collected, processed, stored, retrieved, and circulated easily. A wide range of statuses, behaviours, and transactions are captured as information that is supposed to provide an objective and transparent understanding of realities and their rational management. Investors, users, voters, consumers, and officers became equipped better technically to monitor, evaluate, reward, and sanction the performances with which they are concerned. The technological sophistication, combined with the growing number of stakeholders in economic and political domains, has created the new politics of disclosure in which demands for information have targeted more specific processes and diverse dimensions of reality. What was previously deemed invisible, confidential, or shameful has become visible, public, and common-sensical.

Bibliometric historiography revealed that these aspirations have been most prominent in the finance market, corporate management, and public governance. A co-word analysis demonstrated that transparency in favor of greater visibility has been associated automatically with liquidity, accountability, less corruption, informed decisions, trust, and participation, with the expectation that it will reduce information asymmetry and equalize power among the players invested. Information disclosure and open data have become the new modes of contemporary democracy, regardless of their costs and potential negative outcomes.

However, the extended visibility attributable to abundant information may undermine the human capacity to understand reality. The late modern knowledge-as-information, which is deemed objective, but is often decontextualized, incurs potential risks and vulnerabilities to misunderstanding, simplification, distrust, and frustration. The bibliometric analysis demonstrated that these critical concerns have influenced the relatively recent discussions of transparency in higher education, public communications of policy, and new computer-mediated virtual spaces. By contextualizing the outcomes from the bibliometric analysis

above, I summarize the three sources of the new risks and vulnerabilities embedded in extended visibility.

First, the internal operations designed to achieve transparency are often decoupled from, or even weaken, the intended consequences of accountability or its effectiveness (Strathern 2000; Roberts 2009). Information may be used to conceal more than it reveals because most organizations and actors must manage their own reputations and credibility to survive. They are motivated to be self-defensive and attempt to satisfy a nominal form of transparency without revealing core or sensitive information. Government officials may choose which information to disclose and when to do so. They tend to develop tactics to make particular information either invisible or significant (Fenster 2017). In this process, multiple players can fabricate or manipulate the data to conceal their status or reality, rather than reveal them (Fung et al. 2007). The transparency in policy communication has the negative potential to produce suboptimal outcomes for the sake of the agency's credibility and reputation. Therefore, the ideal of transparency must be approached from the perspective of contextual concerns and practices (Flyverbom 2015). The responsibility to monitor and regulate the state's transactions, as captured in numerical data, shifts from government agents to technologically competent citizens or mediators, such as auditors, analysts, translators, and programmers (Birchall 2015).

The second source of the new risks derives from the politics of disclosure and power relations. Realizing transparency is a full political process through which those with unequal power want to use the information for their conflicting interests. For example, evaluating academics' performance and productivity occurs within the power relations between performers and evaluators. The performers cannot see what is hidden within the evaluators' minds and judgments, and only hope that their professional ethics and potential will be confirmed for their social survival. Performance measurements are highly constructed and artificial ways of capturing a reality. This visible and quantified evidence used for contemporary social practices of audit, quality assurance, and accountability may conceal unquantifiable characteristics, and thus mask particular realities. Nevertheless, as an indisputable ethics, transparency justifies the tyranny of assessing, auditing, and evaluating practices, and assigning axiomatic values to those measures, while the moral appeals for enhanced visibility scarcely can be pure and innocent (Strathern 2000).

Third, the new risks are explored in 'the paradox of information society' in which knowledge-as-information limits or hinders "transparent" understanding of realities. In the past, knowledge was primarily self-knowledge, context-dependent, personalized, time-bound, and infused with values. In contrast, late modern societies depend more on knowledge-as-information consisting of "objectified, decontextualized, time-less, impersonal, and value-free representations" (Tsoukas 1997, 839). The excessive datafication of realities requires readers to acquire contextual knowledge and technical skills to understand those unstructured data. Thus, only those who can analyze or visualize data will dominate in their navigation, analysis, and interpretation. The recent emergence of big data requires far more engineering techniques and abilities to manage and interpret them, to the extent that there is a worry that sociology might be colonized by computer sciences in the near future (Macfarland et al. 2016).

Consequently, the public, which does not necessarily grasp the complexity or contexts of the information, would be vulnerable to misunderstanding and frustration.

The modern temptation to make accurate predictions and achieve rational management by increasing visibility has aggressively trespassed on the boundaries of the private sphere. The recent cluster of influential studies on transparency attended to the ethical tensions that information technologies' development has caused. The concepts of ethics, privacy, the Internet, information, social media, big data, and surveillance, are associated thematically to problematize the consequences of "transparent" captures of what is going on in individual' domains through the explosive availability of personal data. In the name of public security or personalized commercial services, individuals' private lives have become a new territory of intensive datafication for accurate predictions and rational management.

In this new environment with "no place to hide" and the growing frustration about omnipresent surveillance, remaining anonymous in the current digital space is rarely impossible. The ethics of transparency will face ever greater tension with the renewed value of privacy and the right to freedom from intrusion or scrutiny. In the discussion of data privacy, the logic of invisibility that is emerging as the backlash from information providers, has begun to resonate with the agendas of human rights, autonomy, dignity, and freedom from deception, control, and manipulation. Transparency has given new "vision" to citizens, consumers, stakeholders, and government actors through public reporting and open data. Transparency is thus the public's resulting ability to see and comprehend information and reduce information asymmetry and power inequality. Now, government and business actors are required to be more transparent with their counterparts about the way they collect and use personal data and for what purpose. Thus, transparency in the age of privacy and surveillance, is not achieved by embracing greater visibility, but leads to fear of it. "Transparent" understanding of private domains for the sake of governments, corporations, or other collective entities will be a contentious battlefield between the aspiration for, and fear of greater visibility. Transparency as an ethics to govern markets and public governance needs to be reshaped to manage the visibility of private lives.

## Highlights

### 1. What is already known

The ethics of transparency has become an unnegotiable social norm in modern society. Increasing celebrations of openness, enabled by advanced Information Communication Technology, transparency relates to a wide range of market and government initiatives. Consequently, various disciplines in social sciences have attended to the ethic of transparency, though driven by their own narrow and specific research agendas. Readers exposed to a discipline may grasp only partial aspect of the concept, even when other fields' opposing view have persisted. The discussion of transparency in finance and public administration has been devoted to its relationship with market productivity and government effectiveness. Conversely, in anthropology or recent communication studies, transparency has its own dysfunctions of masking realities or damaging trust. The concept of transparency remains highly

fragmented without a perspective that synthesizes the emergence, diffusion, and conflict among the central ideas of transparency.

## **2. What is new**

The paper suggests a more concise way of capturing discussions in the social science, using bibliometric analyses. From the Core Collection of the Web of Sciences, the most trusted index for scientific and scholarly research, the paper elicited total 10,066 articles that include the term 'transparency' in its title, author keywords, or abstract as the primary dataset. They were published from 1970 to 2018 in social sciences categories.

Based on the direct citation analysis, the historiography ranks an article's contribution by identifying the most frequent paths to convey ideas over time. This paper identified five clusters that constitute distinctive discursive evolutions. These clusters of immensely cited works help us understand discursive communities, initiation, extensions, and shifts in the discussion of transparency over the past decades. The co-occurrence analysis helps us identify the thematic associations related to the ethics of transparency. The five main thematic clusters of the most frequently discussed keywords are discussed alongside an overview of the historical and social contexts that brought those concepts together. Drawing upon the historiography and co-occurrence analyses, the paper suggests the five distinctive discursive evolutions of transparency that include (1) market liquidity, (2) governance effectiveness, (3) making reality or misinformation, (4) dysfunctions, and (5) technology-enabled trust.

## **3. Potential impact for Research Synthesis Methods readers outside the authors' field**

As a research synthesis, this paper summarizes the state of knowledge of interactions of issues, interests, and problems concerning transparency. The ethics of transparency is increasingly important in managing human relations, as advanced technologies make realities and human activities more visible and legible. In this context, the insight and knowledge gained only from examining various disciplines over the past decades can identify unsolved issues and the areas for further exploration. Many aspects of our lives are transformed into digital information and knowledge, by new Information and Communication Technology. This increasing visibility or legibility of human lives requires the greater consensus norm about what information should be opened or protected and how much a society should be transparent. This paper contributes to understanding this ethic of transparency by addressing different interests, the conflicting values, and the potential risks involved in building a more transparent society.

## **Declarations**

### **Data Availability Statement**

The data that support the findings of this study are available from the corresponding author upon reasonable request.

### **Disclosure statement**

Not applicable

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## Conflicts of interest

No potential conflict of interest was reported by the author.

## Availability of data and material

All data generated and analysed during this study are available upon request

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## Tables

Table 1. Clusters of the most relevant publications

Cluster	Domains	Research Agendas	Major publications
1	Finance (1998-)	market liquidity price information competition transaction costs	Pagano & Roell (1996), Gemmill (1996) Bloomfield (1999), Boehmer (2005) Bessembinder (2006), Edwards et al (2007)
2	Public governance (1998-)	effectiveness, trust democracy open government	Mitchell et al (1998), Lindstedt & Naurin (2010), Hollyer et al (2011)
3	Higher education (2000-)	oppression audit and evaluation power relations	Strathern (2000), Roberts (2009), Rawlins (2009)
4	Policy communication (2005-)	dysfunction credibility less optimal outcomes	Faust & Svensson (2001), Bushman (2004), Stasavage (2004), Prat (2005), Piotrowski (2007), Kolstad (2009), Etzioni (2010)
5	Technology & Culture (2010-)	surveillance privacy decontextualized information	Meijer (2009), Bertot (2010), Grimmelikhuijsen (2013)

Table 2. Clusters of most frequently co-occurred author keywords (total 98 keywords)

Cluster	Author key words; minimum 30 occurrences *(the rank of strength of association: top 20)
Blue	transparency(1), accountability(2), participation, open government, local government, civil society, good governance, media, open data, freedom of information, politics, Spain, public information
Orange	corruption(3), governance(4), public administration, e-government, efficiency, public procurement,
Olive	democracy(6), regulation(10), legitimacy, European Union, human rights, lobbying, stakeholders, Europe, political economy, perception
Green	corporate-governance(5), disclosure(8), corporate social responsibility, China, journalism, sustainability, globalization, information disclosure, liquidity, development, financial crisis, conflict of interest, content analysis, India, information asymmetry, financial reporting, earnings management, voluntary disclosure, competition, emerging markets
Mint	communication, monetary policy, central bank, credibility, institutions, reputation
Purple	trust(9), risk, performance, leadership, management, uncertainty, culture
Red	ethics(7), privacy, Internet, information, quality, qualitative research, social media, big data, surveillance, evaluation, decision-making, higher education, health policy, methodology, innovation, public reporting, policy, education, research, replication, assessment, decision-making, implementation, health technology assessment, guidelines
Brown	secrecy, access to information

## Figures

