

The Verbal and Visual Dimensions of Market Dynamics: Legal Design, Consumer-Centric Contracts and Market Infrastructures

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Abstract. Drawing on the theoretical evolution of institutional change processes, this work introduces the role of the verbal and visual dimension of texts in the dynamics of market change. Within the research tradition of Science and Technologies Studies, in a perspective of analysis based on social semiotics to investigate the material basis of institutions, the research context concerns the introduction of *legal design*. The research focuses on the specific field of *contract visualization/design*, “a design-driven approach to legal innovation”. Evidence on the application of “human-centered design to the world of law” suggests the emergence of forms of institutional work through distinctive “affordances of verbal and visual text”. Communicative characteristics (argue; specify; narrate; abstract; infiltrate; spatialize; captivate; materialize) and institutional practices (initial placement; exposure; mobilization; typification; explanation; justification; taken-for-grantedness; translation) can be traced back to different phases of the institutionalization of “legal design”, and to different mechanisms that allow to conceptualize the institutional dynamics of the markets in terms of “market infrastructure” (“a materially heterogeneous arrangement that silently supports and structures the consummation of market exchanges”). The work suggests a research agenda for marketing studies and consumer research considering: (i) virtual artifacts related to their mnemonic, performative, interpretive, dialogic and documentary dimensions; (ii) and three research directions related to the evolution of Market System Dynamics.

keywords: contract visualization; legal design; affordances of visual & verbal texts; institutional work; market dynamics; market infrastructure

Introduction and Conceptual Background

Institutional dynamics of markets address market creation/change process “as complex socio-cultural, political, and historical systems” (Giesler, Fischer 2017). This paper introduces the role of the material dimension and the verbal and visual basis of texts in institutional change processes. Abstracts [1] and [2] introduce the dimensions around which the argument is developed: “materiality and visuality” can be foundational manifestations in institutional processes (Meyer *et al.* 2013, 2018; Höllerer *et al.* 2019), in that (i) “they constitute ‘embodied’ aspects of all experiences, including the creation and interpretation of signs and institutions, (ii) and they are central media by which ideas, beliefs and values are expressed, shared and stored to endure over time and across space” (Jones *et al.* 2017: p. 651).

[1] «What did Aldus [Manutius] do to deserve his huge place in history? Quite simply, he invented canon. The dominant, unspoken basis of what I term the Aldine or Classical

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canon is that the formation of a gentlemen (in modern parlance your ruling élite or governing class) passes through the study of a remote dead language [...]. By unequivocally placing the Classical canon at the centre of western educational practice, Aldus was only one of many players, albeit perhaps the most instrumental. The concept of the *studia humanitatis* as the foundation of cultural existence and civic society was formulated by Petrarch, but drew also on what was known about Roman schooling, again centred on the study of Greek literature. [...] The imposition of the Classical canon as an educational model would have founded without the printing press and without Aldus to publish the original Greek texts. The other word which defines Aldine achievement is *design*, or what he did to books, or indeed to communication, since it is only a mild exaggeration to say that every time one turn on a computer, Aldus is starting out at us. But the Aldine revolution in design again has to be placed in the context of an Italian Renaissance that was a huge visual metamorphosis » (Harris 2010)

[2] «This object introduces a fledgling maritime empire, that of Portugal. [By the late-fifteenth century] In the quest for the Indies, the Portuguese went south, down the seemingly endless coast of Africa until they rounded the Cape of Good Hope [...]. Dürer's Rhinoceros is a woodcut print, and it shows a massive beast, nicely identified over its head by the word RHINOCERVS, with the date 1515 above and the AD monogram of the artist below. [...] Above the animal in its printed box is a text in German: "Brought from India to the great and powerful King Emanuel of Portugal at Lisbon a live animal called a rhinoceros. His form is here presented [...]". The appearance of the rhinoceros was, for educated Europeans, another piece of antiquity recovered. It's not surprising that Dürer responded so strongly. The Portuguese king decided to end the rhino on as present to the Pope. But the poor beast never made it Italy. The ship carrying it was hit by a storm off La Spezia and sank with all hands. But the rhino lived on by reputation: one sketch reached Dürer, in Nuremberg; of course, Dürer had never seen a rhinoceros. [But] with the real animal drowned, Dürer's imagined rhinoceros quickly became the reality for millions of Europeans. And he was able to satisfy the enormous curiosity in the beast by mass-producing its image, thanks to the new technology of wood-block printing» (MacGregor 2010: object no. 75).

Leslie Howsam (2006) and Aby Warburg (Didi-Huberman 2017) suggest two approaches to book and art history that are useful for rejecting the original contribution of Aldo Manuzio and Albrecht Dürer to processes of institutional change based on a modern conception of "materiality and visuality": (a) on the one hand, "the three fundamental disciplines that converge in the study of book and print culture are history, literary studies, and bibliography - fields of study that focus, respectively, on the book as a cultural transaction, the literary text, and the material artefact" (Howsam 2006: p. 4); (b) on the other hand, "the image constituted [for Warburg] a total anthropological phenomenon, a particularly significant crystallisation or condensation of what a 'culture' was at a given moment in its history" (Didi-Huberman 2017: p. 25).

The evolution of movable type printing is not only the background to the events of Manuzio and Dürer: understanding innovation involves not only explaining the birth of new technological objects (the book and woodcut as "artefacts") but also their permanence in the context of the social and cultural relations that produced

them. Thus, the “smooth functioning” of the artefact depends on the process of social change that sanctioned its success (the “design of the book” and the “design of the image”: the “cultural projects” of Manuzio as “publisher” and Dürer as “graphic designer”). Innovation, moreover, assumes ‘society’ as a ‘unique network’ in which scientific, technological, social, cultural and economic factors are not distinct elements and “given *a priori*”. Finally, the reconstruction of innovation processes needs to combine the action strategies of the actors involved with the structures (also “under construction”) that constrain their actions.

“Modern” printing in Venice [1], between 1490 and 1515, emerged: (i) around the “design of the book” as an “artefact” (with the standards imposed by Manuzio and within the peculiar context of his entrepreneurial experience); (ii) considering the interconnections between different institutional logics (the cultural dynamics of Italian Humanism and the emergence of academia), within new institutional boundaries (the figure of the “merchant-entrepreneur” in Venice and in the European Renaissance); (iii) and with the support of forms of institutional work (the “modern book”, in Greek and Latin, as an actor of change in the educational market of the time, placing the “Ancient canon” as the foundation of contemporary Western mentality and educational practice for five centuries). Dürer’s “image design” [2] contributes to the “visual metamorphosis” of the Renaissance in terms of iconism and semiotic conventions: “Dürer’s rhinoceros is more successful in portraying, if not actual rhinoceroses, at best our cultural conception of a rhinoceros. Perhaps it does not portray our visual experience, but it certainly does portray our semantic knowledge or at any rate that shared by its addressees” (Eco 1976: p. 205). Warburg proposes the concept of *pathosformeln*: “those gestures that are intensified in representation through the artists’ recourse to the visual formulas of classical Antiquity. The image should not be dissociated from the overall *actions and way of acting (agir)* of the members of a society; nor from *the knowledge and ways of thinking [savoir]* of an epoch; nor from *beliefs and ways of believing [croire]*” (Didi-Huberman 2017: p. 26).

The research hypothesis is that, similarly to the evolution of print, with digital technologies materiality and visuality again contribute to processes of change related to the communicative dimension of “artefacts”. The aim of the research is to introduce the dimension of materiality and the verbal and visual basis of texts into the institutional dynamics of markets (MSD) “defined as an organisational field encompassing a set of institutions and actors, governed by institutional logics, supported by institutional work, and characterised by institutional boundaries” (Dolbec, Fischer 2015: p. 1449; Scaraboto, Fischer 2013; Giesler, Fischer 2017).

Evidence from Legal Design (and Contract Design)

What is Legal Design? The “contract” is perhaps the most “pervasive” artefact in market exchanges (Barton *et al.* 2013, 2017, 2021). In spite of the idea that contracts mainly perform a “legal” and “economic” function, from a *legal design* perspective: “the purposes that matter the most to business actors are allocating

tasks and responsibilities, aligning expectations, defining outcomes, helping to plan a successful transaction, and building the appropriate relational frame to make it happen” (Haapio 2006). This implies a different logic (Bernal, Hagan 2020; Corrales *et al.* 2019, 2021, 2021a): “in fact, the typical law school education reinforces the notion that litigation is the very core of lawyering. Conversely, the proactive and preventive law [PPL] approach is an *ex ante* foundation to envision and use contracts and the law outside court, as instruments to prevent problems and achieve business success” (Passera 2017: p. 33; Siedel, Haapio 2011; Haapio, Siedel 2013). *Legal design* results from the shift from “contract drafting to contract design” (and from “legal thinking to design thinking”): “the application of human-centered design to the world of law, to make legal systems and services more human-centered, usable, and satisfying” (Hagan 2016, 2018, 2019). The introduction of *legal design* proposes “a design-driven approach to legal innovation” (Hagan 2016, 2016a; Rossi 2019; Rossi *et al.* 2019), bringing together various disciplines (Passera 2017, p. 38): “(1) system design (design of a legal system/profession to better serve people and create value); (2) organization design (design of legal practices that help user-centered lawyers work better); (3) service design (design of better experiences for people going through a legal process); (4) product design (design of tools that help users achieve a task related to law better and/or more effortlessly); (5) information design (design of documents, visualizations, and explanations that make access to legal information simpler)”.

Contract visualization. The contracts in this work are: “puzzles were legal terms (‘what if something goes wrong?’) are just one piece, along with technical (‘what solution is being sold?’), implementation (‘who does what, where and how?’), and financial terms (‘who pays whom, when, where, how, and why?’), which need to be coordinated through strategy, communication and good information architecture” (Haapio 2006). In an “information design” logic (Corrales *et al.* 2021a, 2022), therefore, the research focuses on the specific field of *contract visualization/design*, “a novel practice defined as the use of diagrams, images, and visually structured layouts to make contracts more searchable, readable, and understandable – and its role in facilitating the complex cognitive tasks and knowledge interactions taking place interfirm contracting processes” (Barton *et al.* 2013, 2021; Passera 2017; Rossi 2019).

Method

STS and Artifacts as research design. Digital transformation constitutes a challenge in the “institutional dynamic” concerning the relationship between technology, contracts and design. Stefania Passera (2017) summarises the emerging themes: “how to design human-centric and deceptively simple interfaces, services, products, and experiences on top of the technical complexity? How to ensure that future contracts will work well for humans and machines alike? What will be the impact of technology on contracting practices within organizations, and how to manage this change?” (p. 174). The research tradition of *Science and*

Technologies Studies-STS (Bijker *et al.* 1987; Callon 1998; Latour 2005) is based on the connection between technological artefacts and processes of social transformation with particular interest in phenomena such as information infrastructures and standards. The “ecological” approach typical of *STS* (Star, Griesemer 1989; Suchman 1987, 1997) considers “networks” to refer both to the relationships that construct the network of infrastructures and to the relationships located within, between and around networks. Standards (Bowker, Star 1999) constitute forms of classification that enable the transmission of information and interaction between entities in a network, stabilising an infrastructure (Gherardi 2012). Consequently, infrastructures are configured as “assemblages” that enable “practices” (Hui *et al.* 2017) based on classification and standardisation processes (Star 1999; Star, Ruhleder 1996; Harvey *et al.* 2017; Shove, Trentmann 2019).

Institutional Work and Materiality as interpretive context. In terms of method, Lawrence and Suddaby (2006) link the study of institutional work practices and the sociomateriality dimension of *STS* with *discourse analysis* and the *socio-semiotic approach*. In order to decline this interpretative framework from management and organisation studies to the perspective of MSDs (Humphreys 2010; Ben-Slimane *et al.* 2019; Kjellberg, Murto 2021; Jafari *et al.* 2022), the notions of “embedded agency” and “practice” are sufficient (Hampel *et al.* 2017): “concrete instances of institutional work are simultaneously practices – embodied, materially mediated arrays of human activity – that are organized around institutions and people’s intentions to shape those institutions” (p. 560).

Multimodality and Contract Visualization as research context. The “contract-as-artefact” constitutes the unit of analysis of this theoretical construction. In the case of contract visualisation, the multimodal socio-semiotic theory concerns (Kress, van Leeuwen 2006; Kress 2010: p. 34): “(i) the social interaction and interchange around meaning, oriented to the processes of making and remaking meaning through the making of signs in representation; (ii) the resources for making meaning – on modes and their affordances; (iii) and the conditions and means for disseminating meaning – the media and their facilities”. The concept of affordance relates to the “social dynamics of technology”, defined by Jenny Davis (2020: p. 4) as: “the ‘multifaceted relational structure’ between an object/technology and the use that enables or constrains potential behavioral outcomes in a particular context: [...] affordances are *how* objects shape action for socially situated subjects” (e.g., in marketing studies: Borghini *et al.* 2021; Kozinets *et al.* 2021; Mardon *et al.* 2023).

Findings: Visual & Verbal Affordance and Institutional Work

This paper focuses on a peculiar aspect of contract visualisation: the emergence of *institutional work* practices from the material characteristics and verbal and visual basis of the contract. Meyer *et al.* (2013, 2018) developed a framework that investigates “the impact of different semiotic modes (i.e., socially shaped resources of meaning making like verbal e visual sign system; [see Kress 2010]) across

specific stages in the process of institutionalization” (p. 392). Table 1 (*Appendix*) elaborates and summarises the main components of the framework (Höllerer *et al.* 2019; Ravelli *et al.* 2023): (i) contract visualisation practices are subject to “legitimization” through a staged institutionalisation process (the three columns of the table); (ii) specific communicative features (first row of the table) and groups of “affordances of the visual mode (argue, specify, narrate, abstract) and the verbal mode (infiltrate, spatilize, captivate, materialise)” (second and third rows) relevant in the institutionalisation process emerge from contract visualisation practices; (iii) finally, the requirements for the transition from one stage to the other (fourth row of the table) emerge as forms of *institutional work* around the “contract-as-artefact” (initial placement; exposure; mobilisation; typification; explanation; justification; taken-for-grantedness; translation). Communicative characteristics and institutional practices can be traced back to different phases of the institutionalization of “contract design”, and to different mechanisms that allow to conceptualize the institutional dynamics of the markets in terms of “market infrastructure” (lower part, table 1).

Discussion and Conclusion: MSD & Market Infrastructure

Materiality & Visuality, Market Dynamics and Market Infrastructure. From the practices of contract visualisation (Nicolini 2012; Nicolini *et al.* 2012), founded on the material dimension and the verbal and visual basis of the contract, emerge forms of *institutional work* (Lawrence, Suddaby 2006; Hampel *et al.* 2017) consistent with the need to investigate “macro-cultural, historical and market-level structures and forces that shape consumption practices and culture (micro level bias [for Giesler and Fischer 2017])” (Pedeliento *et al.* 2023). Within the institutional dynamics of markets, the notion of *market infrastructure* (MI) emerges from the notion of infrastructure traceable to the STS tradition: “a materially heterogeneous arrangement that silently supports and structures the consummation of market exchanges” (Kjellberg *et al.* 2019: p. 209).

The notion of MI has eight characteristic traits (bottom table 1: Kjellberg *et al.* 2019). The practice of contract visualisation answers a first question: “how and why do contract creators use contract visualization in contract documents (or as a support for the contracting process, and in explanatory guides and materials about contract documents?” (Passera 2017: p. 158). From this need it emerges that MI is *relational*: “infrastructure must be considered ‘in relation to organized practices’ and whether it is part of the background for the individual consumer in the process of exchange” (p. 224). Relationality suggests that an MI is *available for use* by all entities and through artefacts that may not be for exclusive access. Contract design, therefore, addresses the need to develop an artefact “to transform knowledge and create common ground, allowing collaboration in cross-professional and knowledge-intensive processes”. (Passera 2017: p. 159; see also: Carlile 2002, 2004; Carlile *et al.* 2013). Moreover, the dissemination of standards constitutes a *modular* component of the infrastructure and answers the question: “what

approaches can facilitate contract creators in selecting, creating, modifying, and deploying visualisations in contracts?” (Passera 2017: p. 160). This characteristic suggests that the legitimization of the practice of legal design itself is subject to a process of institutionalisation that requires *ongoing maintenance* of the practice (Lawrence, Suddaby 2006; in MSDs: Araujo *et al.* 2010; Humphreys 2010): “to what extent do visualizations enhance the comprehension of contract documents among their intended users operating in an every-day, non-adversarial organizational scenario?” (Passera 2017: p. 156). The process of “infrastructuration” is important in terms of the “institutionalization” of an *emerging practice* but also in terms of the *interdependencies* that actors are called upon to manage (Nicolini *et al.* 2012): it is with the disappearance of relevant parts of the infrastructure that actors become aware of its relevance (Nicolini 2012). This characteristic emerges when, in contract design, one considers: “to what extent do those same visualisations improve the perception and experience of interacting with contracts among their intended users?” (Passera 2017: p. 156). Modularity and interdependencies of an infrastructure support the idea that it is the result of “multiples markets, operating on the grounds of their own particular market infrastructures, [nested] in the constitution of any given market infrastructure” (p. 226). This *commercial* dimension leads to the assembly of heterogeneous actors (in MSDs: Scaraboto, Fischer 2013; Dolbec, Fischer 2015): “what individual characteristics of contract users may affect the possible comprehension benefits of visualization in contracts, and to what extent?” (Passera 2017, p. 156). Finally, MIs are “controversial” spaces (*political*), in the sense that *matters-of-concerns* are exercised: “do contextual characteristics, such as contract type and contracting situation, affect the possible comprehension benefits of visualizations in contracts, and to what extent?” (Passera 2017, p. 156; in MSDs: Humphreys 2010; Canniford, Bajde 2016).

Concluding remarks: A Research Agenda. In terms of operational implications: “several theoretical approaches are useful in combination to analyze the role of objects in interdisciplinary collaboration” (Nicolini *et al.* 2012); and “future lawyers have been predicted to operate as transformers, transaction engineers and as designers” (Haapio 2023: p. 211). The theoretical and empirical implications concern the two dimensions of analysis: (i) the role of materiality and visibility in organisation and management studies on the one hand and in marketing and consumer research on the other; (ii) the introduction of the notion of MI in the evolving perspective on the institutional dynamics of markets. In the first case, artefacts are characterised (Meyer *et al.* 2013; Höllerer *et al.* 2019): (1) as “storage” of “sedimented social knowledge”; (2) as performative material objects; (3) as a form of “textual cooperation” in a narrative approach; (4) as “a form of communication”; (5) and as a specific form of “field notes” in a documenting approach. Finally, in the second case, the notion of MI in the field of MSDs feeds into three overlapping concerns (Nøjgaard, Bajde 2020; Pedeliento *et al.* 2023): (1) market ontology, (2) market ideas and (3) market agency.

Appendix: table 1

VERBAL & VISUAL TEXT: INSTITUTIONALIZATION OF NOVEL IDEAS (*)					References
PHASES:	(A) PRE-INSTITUTIONALIZATION	(B) SEMI-INSTITUTIONALIZATION	(C) FULL INSTITUTIONALIZATION		(*) verbal & visual texts/social semiotic and multimodality, institution and materiality; practice and institutional work: Meyer et al. 2013; Meyer et al. 2018; Holler et al. 2019; Kress 2000; Kress, van Leeuwen 2006/2021; Jaxay et al. 2023; Jaxay et al. 2017; Jaxay et al. 2017; Lawrence, Suddaby 2006; Cardile 2002, 2004; Cardile et al. 2013; Nicolini 2012; Nicolini et al. 2012.
Characteristics of the communicative situation:	(i) match between idea and existing meanings (ii) prominence of text producer (iii) clarity and predictability of outcome(s)	(i) anchoring in sensory perception and shared understandings in the field	(i) potential for contestation of idea (ii) match of vocabularies between contexts and audiences		
VERBAL AFFORDANCES	the strong social regulation of verbal expression combined with its higher determinacy, affords the construction of systematic formal arguments. poly-sensory its sequential structure, combined with its strength in conveying temporality, makes verbal text an excellent resource for the creation of elaborate narratives [...] This affordance [...] consists of aligning events in specific plots and clear temporal structures, thereby assembling a variety of elements into coherent wholes since the relationship between signifier and signified in verbal text is conventional, verbal text is able to convey ideas and concepts that have no direct correspondence in the world of sensory perception.				
VISUAL AFFORDANCES	these features enable experimentation and the transgression of norms, suggesting that visual text can transport message that cannot be legitimately verbalized and make visual texts more amenable to communicating tacit, aesthetic or embodied knowledge its inherently spatial and holistic signification makes visual text particularly useful for foregrounding the importance of space(s) embodied subjectivities, immediacy of perception, and simultaneity of signification endow visual text with eminent potential to captivate audiences materialize in depicting certain ideas iconically, visual text is able to achieve verisimilitude, which suggests "objective" representation and "fidelity"				
REQUIREMENTS	initial placement - the novel idea is available to the target audience with field-level meanings appeal - the novel idea is available to the novel idea modalization - generating the meaning and relevance for applicability of an idea typification - explanation creating a plausible link between the idea and a relevant problem justification - creating a basis for the legitimization of novel idea diffusion/ modalization - making the novel idea communicable across audiences/contexts				
Forms of Institutional Work					
MARKET INFRA-STRUCTURES (**)	(A) PRE-INSTITUTIONALIZATION	(B) SEMI-INSTITUTIONALIZATION	(C) FULL INSTITUTIONALIZATION		(*) Infrastructure, boundary objects, memory practices, classification, anchoring/abstracting, Star 1999, Berg, Bowker 1997; Star, Bowker 1996; Bowker 2005; Bowker et al. 2015; Suchman 1987, 1997; Harvey, Jensen, Montuori 2017; Hui et al. 2017; Ghemal 2012 Market Infrastructure Kaplan, Huguenin, Cochoy 2019; Shove, Treanor 2019; Vaago, Jaxay et al. 2023; Jaxay et al. 2023; Peddiento et al. 2023
(1) Relational	(P1a) the higher the prominence of a text producer in the novel idea and existing meanings within a field, the more supportive narrating - verbal text - is for the exposure of a novel idea (P1b) the lower the match between the novel idea and existing meanings within a field, the more supportive captivating and infiltrating - visual text - are for the initial placement	(P2a) the less a text producer is anchored in sensory perception, the more supportive abstracting and specifying - verbal text - is for its typification (P2b) the more a novel idea suggests a clear and predictable outcome, the more supportive specifying - verbal text - is for appeal and mobilization (P2c) the lower the prominence of a text producer in the respective field, the more supportive captivating and infiltrating - visual text - are for the exposure of a novel idea	(P3a) the higher the shared understandings in the field, the more supportive arguing and narrating - verbal text - is for the justification of a novel idea (P3b) the lower the match between idea and shared understandings in the field, the more supportive spatializing and materializing - visual text - is for explanation and its typification (P3c) the less a novel idea suggests a clear and tangible outcome, the more supportive captivating and infiltrating - visual text - are for the exposure of a novel idea (P3d) the lower the match between the novel idea and existing meanings within a field, the more supportive captivating and infiltrating - visual text - are for the exposure of a novel idea	(P7a) the lower the potential for an idea among audiences, the more supportive abstracting - verbal text - is for maintaining the taken-for-grantedness of fully institutionalized ideas (P7b) the higher the potential for an idea among audiences, the more supportive narrating - verbal text - is for the transmission and diffusion of fully institutionalized ideas (P8a) the greater the match of vocabularies between audiences, the more supportive abstracting and narrating - verbal text - are for the transmission and diffusion of fully institutionalized ideas (P8b) the lower the match of vocabularies between audiences, the more supportive materializing - visual text - is for the transmission and diffusion of fully institutionalized ideas	
(2) Modular					
(3) Interdependent					
(4) Actively maintained					
(5) Available for use					
(6) Emergent					
(7) Commercial					
(8) Political					