

## **Intellectual capital, social capital and collective intelligence: concepts for a new approach of the “out of box” legal information**

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**Abstract:** An exploratory analysis with qualitative focus combines examples of "out of box" legal researches with theoretical references on intellectual capital, social capital and collective intelligence. The analysed data consists of real cases, selected from an exploratory qualitative study, on January and February 2016, mainly from São Paulo city, Brazil. This investigation has identified: (1) intellectual capital, produced by librarians and researchers, as products of their surveys; (2) existing social capital among Law librarians, expressed by means of their information research and diffusion, articulated throughout social media, discussion lists and networking; (3) collective intelligence, indicated by mapping information sources and survey strategies by means of cooperation and sharing.

**Keywords:** Intellectual capital. Social capital. Collective intelligence. Legal information. Law librarians. Interdisciplinarity.

### **1. Introduction**

On legal research, many non traditional or less conventional sources, strategies, parameters and ways of improvement are used when demands are about information or document access; brand new subjects and information sources exhaustion; updating, management and diverse uses; and other demands. Such methods require a kind of interaction between information users and professionals that demands cooperation, sharing habilities and interdisciplinarity in order to produce solutions beyond the available databases. This is considered “out of box” legal research. An exploratory qualitative study has been conducted, on January and February 2016, in order to evaluate how “out of box”

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research is set up among legal professionals, mainly from São Paulo city, Brasil, hereinafter referred as base research.

The sample was formed by 74 professionals: 52,7% librarians, 16,2% professors, 12,2% lawyers, 18,9% others. Their academic background shows the high level of the sample, for 70% being *Latu Sensu* post graduated and 11% double graduated specialists on Librarianship and Law area (Napoleone, Camargo and Santos, 2016, pp.837-839).

Data collection results exceeded initial expectations. The overall view of the data compiled evidenced something beyond the frame of sources of information and research strategies, that did not seem visible when the individual data collection happened. The conclusions towards the "out of box" legal research pointed, among other ideas, the collective intelligence and the social capital. The information assembled has acknowledged collective intelligence in this area, available from many sources under diverse formats, often using cooperation and sharing. The significance of the social capital present within Law librarians, expressed through their methods of searching and disseminating information, by means of social media, discussion lists and networking was also pointed out (Napoleone, Camargo and Santos, 2016, pp.843-844).

The present study is an exploratory analysis with qualitative focus, combining examples of reported "out of box" legal researches with theoretical references on intellectual capital, social capital and collective intelligence. The analysed data consists of real cases, selected from the base research, to identify evidences of the concepts of the different capitals and intelligences.

The cases analysis, far from being exhaustive, proposes to be an exercise of analysis from different points of view, suggesting new approaches to the work of the information professionals, specially Law librarians.

## **2. Multiple knowledge, multiple intelligences, multiple capitals**

Legal information, in selected examples, will be analyzed from different points of view, representing different knowledge, capital or intelligence types. Two of these points of view are capital types: intellectual capital and social capital. One of the most controversial concepts in the social sciences, capital is historically studied under the 19th century Marxist viewpoint (classical theory), with new approaches throughout the 20th century in the financial and business areas (neocapitalist theories) gaining notoriety in the years 1990, with the distinction of four capital types by the World Bank: natural, financial, human and social (D'Araujo, 2010, pp. 3-6, Lin, 2008, pp. 3-6). Figure 1 presents the intellectual capital, social capital and collective intelligence concepts from their most eminent theorists and scholars, which serve as parameters for the examples analysis.

### 3. Legal research out of box examples

Two cases of "out-of-box" legal research were selected, referring to municipal legislation, which reports were more detailed and allowed the identification of presented concepts.

Although intellectual capital has arisen in the business area, studies have grown towards the public or non-profit areas. Edvinsson and Malone (1998) have

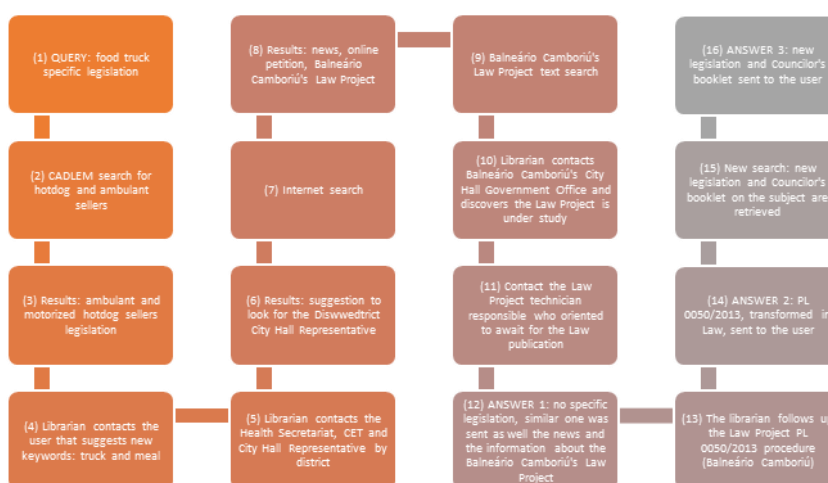
Concepts	Definition
<p><b>Intellectual Capital</b> (Edvinsson &amp; Malone, 1998)</p>	<p>One productive way of looking at a company (or, as we shall see, any organization) is to look at it as if it were a tree. The trunk, branches and leaves that are the parts of the tree visible to the observer, represent the company as it is known by the market and expressed by the accounting process. The fruit produced by this tree represents the profits and products harvested by investors and consumed by customers. The hidden value of a company is the root system of that tree. For the tree to flower and produce fruit, it must be fed by strong and healthy roots. And just as the quality of the fruit of a tree depends on its set of roots, the quality of the company's business organization and the soundness of its financial capital are also a function of its hidden values. (Edvinsson &amp; Malone, 1998, pp. 28-29)</p>
<p><b>Social Capital</b> (Pierre Bourdieu, 1980)</p>	<p>A set of current or potential resources that are linked to the possession of a durable network of more or less institutionalized relationships, of inter-knowledge and interrecognition; Or in other terms, belonging to a group as a set of agents that are not only endowed with common properties (susceptible to being perceived by the observer, by others or by themselves) but are also linked by permanent and useful links (Bourdieu, 1980 , pp.2)</p>
<p><b>Collective Intelligence</b> (Pierre Lévy, 1994)</p>	<p>It is an intelligence distributed throughout, incessantly valued, coordinated in real time, resulting in an effective competences mobilization (Lévy, 2015, pp. 26). This project calls for a new humanism that includes and widens the "know thyself" to a "we learn to know ourselves to think together", and that generalizes the "I think, therefore I am" into a "we form a collective intelligence, soon We exist eminently as a community." The general framework for relation to knowledge is divided into 4 spaces: Earth (Paleolithic), Territory (Neolithic), Merchandise (Industrial Revolution); Knowledge Space (current). The Space of Knowledge is proposed not only as an outlet over the territorial labyrinth, but as a bridge between the previous spaces: it puts in communication the Earth, the Territory and the Merchandise. (Lévy, 2015, pp.26, 29, 120, 196)</p>

**Figure 1 – Basic conceptual framework**

dedicated part of their work to address the human capital of municipalities, chosen as an exercise of its application in a non-commercial institution, and listing indicators and indexes for their evaluation (pp. 178-185), coincidentally the same within the scope of the analyzed examples. For each example the description of the research and results has been registered and followed by the analysis.

**3.1 Food truck specific legislation research**

**Query** - The user aiming a food truck project, wants to know if there is a specific legislation for this activity (Figure 2).



**Figure 2 - Food truck specific legislation research**

**Analysis** - Firstly, intellectual capital is evidenced through two of its elements: the use of structural capital (patents, processes, databases, networks, etc), represented by the CADLEM database (2), and human capital (skills and knowledge of the team), through the knowledge and experience of the librarian employed in the carried out researches (2 to 5, 7 to 8). The contact with other organs and professionals was not considered relational capital (relationships with customers and suppliers) because they would not necessarily be suppliers or clients of the institution to which the professional belongs, were seen more as evidences of social capital. Social capital is evidenced when the librarian extrapolates her internal work environment, identifying and activating other human capitals that can collaborate in the research, serving as a bridge or connecting element between the people, institutions and information obtained, initially disconnected, to build the desired answer (5 to 6, 9 to 11). “Social

capital is the contextual complement to human capital". Weaker connections between groups are considered holes in social structure, or structural holes, and "create a competitive advantage for an individual whose relationships span the holes". Individuals, seen as entrepreneurial managers, "with networks rich in structural roles operate somewhere between the force of corporate authority and the dexterity of markets, building bridges between disconnected parts of a market where it was value to do so" (Burt, 2008, pp.32, 34, 37).

The overall view of the research process shows the collective intelligence distributed in several people and institutions, and that could be evidenced through the interaction of its representatives. The research environment is given and consolidated in a virtual environment, intangible (not necessarily digital). It can be related to the notion of cyberspace that refers mainly to the original modes of creation, knowledge navigation and social relation provided by the new information medias. One can also consider the Levy's Knowledge Space notion organized "around devices that translate a multiplicity of collective events or devires into a dynamic and qualitatively differentiated space (it is, of course, a space of signs, cartography, not a physical space)". Although considered utopian, the Knowledge Space is "a technical possibility, effective to compose personal temporalities for the creation of a collective subjectivity, and the possibility of retaining collective, emergent time in individual subjectivities," so that individuals do not remains isolated even at their own paces. "(Lévy, 2015, pp. 102, 150-151).

### **3.2 Sand used by cats and dogs discard ways**

**Query.** The user wants to know if there is a law that guides the way sand used by dogs and cats is discarded, considering ordinary sand, and not specialized one for this purpose (Figure 3).

**Analysis** - Easily identifiable human capital application, element of intellectual capital, through the knowledge and experiences of the librarian, throughout the process. In view of the difficulty in obtaining the information of an interdisciplinary nature, the librarian made use of her colleagues as entries in a living encyclopedia, as in the previous example, although it is not exactly a virtual community, from the point of view of Costa (2005). According to Harrington (1996, pp.82) apud Costa (2005) "when the need is for a specific piece of information, a specialized opinion or the location of a resource, the virtual communities work as a genuine living encyclopedia. They can help their members deal with the overload of information."

However, when there is no interaction, there is no evidence of collective intelligence or social capital, although they potentially exist. In this example, although several sources of information were identified, there was no response or feedback from the contacted sectors, although there are certainly many significant tacit knowledge available.

On the study carried out, there are other research examples that report the professional groups and networks activation (Legal Groups of São Paulo and Rio de Janeiro, Infolegis Discussion List, for example) to obtain information and collaboration for research, and point out clearly social capital and collective intelligence among Law librarians

#### 4. Final considerations

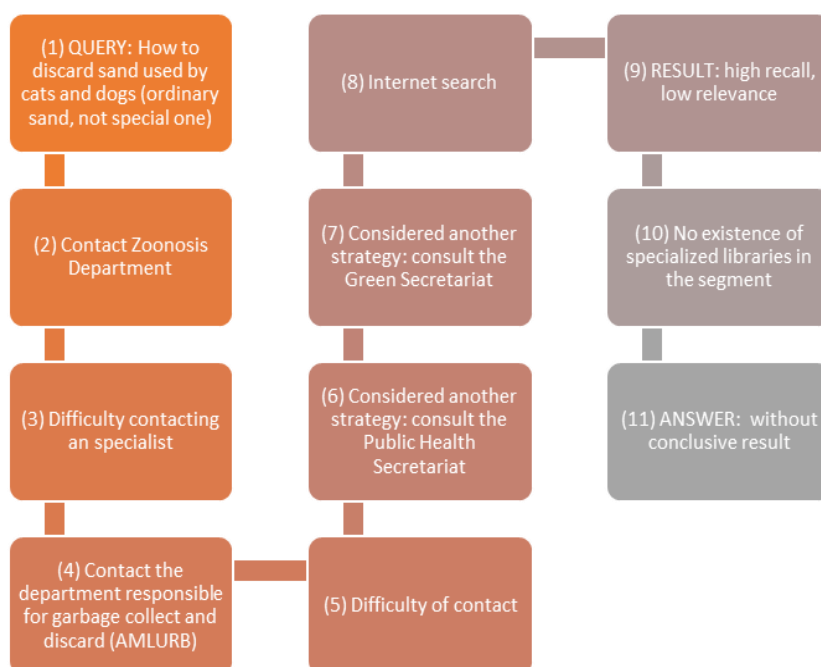


Figure 3 - Sand used by cats and dogs discard ways

Considering the bibliographic research, two aspects are highlighted. Firstly, since it is a multidisciplinary and interdisciplinary field, there are often works that associate two of the concepts, or one of the concepts with the Knowledge Management. Some works that consider the relationship between the various concepts: intellectual capital and social capital (Bracke, 2016), social capital and collective intelligence (Margoto and Fernandes, 2015) and intellectual capital and collective intelligence (Secundo et al., 2015).

Secondly, the themes are considered both in the area of library science and information science: intellectual capital (Hartman, 2009), social capital (Medeiros and Lucas, 2016) and collective intelligence (Bembem, Santos and Pinho Neto, 2014).

The relationship between libraries and the social capital creation is discussed in a significant way in literature, specially related to public libraries, as well University libraries, and the legal area (Wise and Schauer, 2007).

Combining the concepts study, the examples analysis and the basic research results, some observations are regarded:

Considering the intellectual capital: this is most clearly perceived by its own characteristics, specially human capital in the figure of librarians and researchers, responsible for bringing tacit, or even explicit, knowledge to share, collaborate or interact. There is an indication in the general result of the base research regarding the difficulties encountered that refer to intellectual capital: information organization, research informational infrastructure (structural capital), and personal attendance in other institutions (human capital).

*Considering the social capital:* easily identifiable when extrapolating the library's internal environment, triggering networking or workgroups; the more it is used, the greater its evidence. By the nature of their work, reference librarians can be seen as owners, or collaborators in creating social capital when they use collaboration with professional groups, mailing lists, contact with specialists, to get information.

*Considering the collective intelligence:* there is also a need for interaction so that intelligence is evidenced, creating an invisible, virtual platform, where researchers and professionals meet and share their knowledge. The collective intelligence is visualized at the end of the process, when evaluating the various collaborators in the composition of the response. In the trends listed in the base study there are indications of the possibility of creating a collective intelligence through digital information, on public, fast and easy access, allied to new librarians' role, sources mapping and work promoting, and also Information Curation, traditional and nontraditional sources use; and as a strategy to overcome the difficulty of information sources dispersion.

All the concepts studied are also criticized, presenting positive and negative points, not explored in this study but that need to be taken into account. Because of its intangible character, there is a fragility of ties and networks, and it is necessary to look at the aspects that guarantee its perpetuation. In general, trust for the social capital creation, and ethics for the emergence of collective intelligence, are considered as essential elements.

The concepts interrelationship with "out-of-box" legal research is feasible, based on the analysis of the examples and the relationship with results of the base research.

Although the legal area is characterized by hierarchy and formality, the legal information provision is a condition for the public citizenship exercise (Wise

and Schauer, 2007, pp.282-283), being an opportunity and platform for social capital and collective intelligence creation.

The intellectual capital, social capital and collective intelligence studies provide a re-reading of professional practices, in all areas, not only librarians, but can be valuable resources in rethinking, strengthening and transforming professional dynamics positively.

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