

# Information in the public health sector from an anthropological perspective: a study carried out in Minas Gerais, Brazil

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## Abstract

This study examines the relationship between the organizational culture of municipal health secretariats of the State of Minas Gerais, Brazil – from the perspective of managers and employees - and how these players deal with information in the health sector. Organizational culture was seen as a shared means of work that established forms of “informational behavior”, and values and principles that comprise an “informational culture”. This culture was analyzed by taking into consideration, among its external constraints, the local, regional, national and global culture levels. The methodology comprised a qualitative analysis of the health secretariats of three municipalities deliberately selected. Results showed several different aspects concerning how departments deal with health-related information - in line with aspects of state and national cultures, which oscillate between modernity and backwardness. The study was considered “anthropological” because the author based his analysis on concepts originating from this field of knowledge. The perception of the transdisciplinarity of information in the health sector - political, technical, social, cultural, economic and administrative – intended to understand how the practices and concepts of the public health sector are the bearers of multiple socially conditioned meanings, aiming at broadening the concept of “anthropology of information”.

## Keywords

anthropology of information; culture; public health; public management; organizational culture

## Introduction

The diversity of concepts currently present in Information Science reflects the multiple perspectives assumed by this field of knowledge. From the question whether, given its inherent characteristics, Information Science would not undertake the role of an integral part of the humanities and social sciences arises the perspective

that, as a new mode of knowledge production, it requires multiple methodological approaches to develop its own research. As Marteleto states (1994) it is this context that sets the background for a greater proximity between culture and information, and it is also in this context that the idea of information as an element that seems to refer to a new cultural form in Western societies emerges and

consolidates. This would point towards an information science as an “anthropology of information” - implying submitting the analysis of informational behavior to an analysis of cultural dynamics. Thus, it is necessary to change the perspective that considers historical and social-cultural conditions as factors outside information systems and products, and to adopt a new approach that considers these conditions as part of the initial conditions of generation and use of information and of knowledge.

This context provides the environment where this study is carried out. It intends to examine the relationship among information management in the Municipal Health Secretariats of three municipalities of Minas Gerais, Brazil, while considering, in this research, the social-cultural insertion of such management. For this purpose, an ethnographic methodology was adopted; the concept of “anthropology of information” applied to information management in public health was created during the work.

The mentioned concept of information science comprises, in the social spheres of information studies, the use of information and informational behavior in organizations as shared modes of action, which is important in studies of effectiveness in achieving the purposes of such organizations, of efficiency in dealing with the means to achieve them, and of effectiveness of results concerning more comprehensive social goals, in the case of public organizations. The informational behavior of social players can also be understood as part of the “informational culture” of organizations, which in turn comprises the “organizational culture”, inserted in local, regional, national, and now global cultural levels. Studies evaluating public policies do not traditionally include an evaluation of informational behavior of managers or employees as users of information, although Information Science has been gradually accumulating literature on the subject. Davenport (2002) states that informational behavior refers to the way individuals deal with information, which includes the search for it, its use, modification, exchange, accumulation, and even ignoring it. However, while informational behavior focuses on individual acts, the concept of culture involves groups or organizations – their beliefs and principles; hence the need for an anthropological approach.

The concept of culture originates in Cultural Anthropology, and in this field it has been defined in many ways. Geertz (1978) gives a summarized definition: culture is “a non-genetic mode of transmission that exists in a continuous community.” Culture and community can be defined relative to each other. Culture is that which a population shares and which turns it into a community. But the human species shares a wide range of behavioral plasticity and variability. Culture could be related to the very foundation of the community. Without some degree of homogenization, human communities would be impracticable; culture is the element able to tame unpredictability and disorderly behavior, allowing cooperation to exist. Culture is a system of restrictions, imposing limits to an endless set of possibilities.

The scope of the concept of culture is also defined by Lévi-Strauss (1975), who attempts to specify it, by means of anthropological research, as an ethnographic group that presents, from the perspective of the survey, a significant differentiation, comprising a specific cultural unit depending on the researcher’s point of view - a city, a country, countries or a continent. This means that cultures do not have clearly discernible boundaries, and may comprise subcultures that may or may not correspond to “cultural areas”, understood as particular territories.

The elements of culture have several other features. Culture is symbolic; that is, it has a meaning given by the one using it. Such meaning is arbitrary, in that it does not necessarily have a connection with the physical properties of any phenomenon. Paradoxically, it is both dynamic and stable: stable in that it is a tradition and an institutionalization of behavioral standards; on the other hand this institutionalization is not eternal, and is subject to change. The very nature of learning the culture defines the possibility of a continuous transformation. In addition, factors other than culture are absorbed and also recreated, and redefined within a specific society. Culture is also selective, that is, in the transmission process certain aspects are relegated to oblivion; others are not.

Anthropologists also emphasize that culture is both universal and regional, that is, every human being participates in some type of culture in order to establish him or herself as human. All human beings take part in some type of culture; on the other hand, many different forms of culture are established in several different levels of human groups and subgroups. Another paradox is that culture is both a defining and a defined factor, that is, culture defines man, but it is man who creates culture: culture is a human creation that eventually becomes a constraining factor for society, with varying levels of coercion.

## **Culture and information in organizations**

In this study, the appropriation of the concept of culture by Information Science aimed at a condensed view of the plurality of variables. McGarry (1999) defines culture in a comprehensive way, as a means of storing and transmitting information in society. Just as the genetic legacy leads towards a predisposition to act according to its influence, cultural heritage also has a similar action. There is a proverb that says that “all cultures are governed by the dead”, emphasizing the importance of the permanence of culture and the impacts of such permanence, which characterizes tradition. From oral tradition to writing to the conformation of the electronic era, there is a parallel between local and global culture. Intermediate subculture levels vary among peoples and societies. The work of Avison and Myers (2006) aims at connecting these ideas with the perspective of information systems. Using an “anthropological perspective on information technology”, they state that anthropology has been largely neglected in studies on

information systems, and claim that the connection between the perspective of organizational culture and the anthropological outlook can generate good results for the implementation of new technologies.

In the field of communication Winkin (1998) stated that a “new communication science” has to understand this anthropological level and go out in the field, looking for familiar and everyday environments, such as cafeterias or traditional neighborhoods to find out, through the transmission of information, how the modes of existence are built. The work of the communication scientist would then assume an ethnographic characteristic. According to him, Shannon’s linear model or Wiener’s circular model led to a complex and multifaceted approach, which he then called “anthropology of communication.” This would mean that the field of cultural learning is the field of communication. That is, costumes and architecture are both cultural and communicational phenomena – thus representing information loaded with symbolic meaning. Lévi-Strauss (1975) had already questioned whether several aspects of social life, including art and religion, are not phenomena whose nature is that of language.

Several authors of Linguistics and Communication reexamined these concepts. Eco (1991), developing a general semiotics theory, defined it as “a general theory of culture” - or, in other words, culture should be perceived as a communicational phenomenon, based on systems of signification. According to Eco (1991) there is no difference between semiotics and a theory of culture, since the phenomena studied by semiotics (art, architecture, language) are cultural phenomena. According to him, the anthropological concept of culture encompasses the production and use of objects that transform the relationship between man and nature, family relationships as the centers of social relations and the exchange of possessions. These three aspects, he says, show that culture is a process of signification and communication, and society only exists based on these processes. Semiotics would be a study of codes, and every code stems from a cultural convention – that is, semiotics is a signic study of culture. Culture, then, *must* be studied as a semiotic phenomenon, or at least it *can* be studied this way. There is a sign every time a human group decides to use and recognize something as a vehicle for something else. Barthes (1974) states that “paradoxically” it was not in sociology that these ideas found a fertile ground; rather, it was in philosophy and anthropology. He analyzes the dietary habits, clothing and furniture under the perspective of the semiologic extension of the idea of language.

The criterion of communication requires an agreed-upon code shared between individuals participating in a certain culture, but these codes are dynamic, like culture. In the field of communication, as for communication processes existing in everyday activities, the relationship between information / communication and semiotics must therefore be seen as necessary, for every informative / communicative process is semiotic by

nature – and part of a specific culture where codes are defined and shared.

This concept is relevant to Geertz’s concept of culture (1978), which is also semiotic in essence. Based on the Weberian concept that man is an animal tied to a “web of meanings” that he himself weaves, the author defines culture as being this web, and anthropology should therefore build its analysis not as an experimental science experiment in search of laws, but rather as an interpretative science in search of meaning. The communicational phenomenon would therefore occupy a privileged position in this analysis.

To Samain (2001) the initial parameters of a “communication epistemology” capable of encompassing this complex definition were given by Bateson in his attempt to unite biology, anthropology and communication. According to Bateson (1972) epistemology, as a general science of any and all knowledge, needs to include communication, since without it there is no knowledge. In his texts he suggests a new anthropological outlook, by reconsidering human communication and the interrelationships that exist among its various types of media - studying, verbally and visually, how for example a child born in Bali becomes a Balinese child, and subsequently a Balinese adult. That is, what are the social behaviors learnt during its childhood or taught by its cultural environment, or why the North American practice of encouraging an exhibitionist behavior in children has an impact on the “We Are Number One” syndrome that plagues that country .

The context of communication, thus, both intra and intercultural, is necessarily interactional in a social perspective – which gives support to the proposed concept of “anthropology of information.”

In fields as diverse as linguistics or the social theory of Habermas one can find subsidies for this interpretative concept of Information Science. Bronckart’s social-discursive interactionism (2003), whereby the cooperation of individuals in social activity is mediated by verbal interactions and which refers back to the correlation highlighted by Vigotsky between the psychological and social spheres, opens up the possibility of a social-discursive hermeneutics, and this dimension is similar to what Habermas called “communicative action”.

Another line of studies, which considers the social and cultural dimension in a “micro” approach, is the one that approaches the so-called “micro sociology”. Deriving from the study of small groups in the United States in the 1940s, the micro social outlook favors social interaction – which can be understood as an informational phenomenon. The construction of meaning will assume a leading role in it.

The functionalist theory reduced the complexity of groups to more or less simple models, but this approach has not exhausted the subject; on the contrary, it opened up the discussion to more relevant approaches, such as Schutz’s comprehensive sociology, of Weberian inspiration (1970), symbolic interactionism and Goffman’s works (1974), and Garfinkel’s ethno methodology

(2002), as well as social psychology. All these perspectives have some degree of similarity with anthropological perspective - from the election of certain objects of study (micro cultures) to the need to understand the "other" according to a perspective that abandons the pretence of neutrality and, on the contrary, wants to perceive them according to their own motivations. The micro social analysis does not have similarities with the classic "main fields" of anthropology, but with the approaches of interpretative anthropology instead, which elects its objects in an inclusive multicultural perspective, and understands science as the search for specific meanings by certain groups, contrasting with the search for social or cultural macro interpretations. The "dense description" of interpretative anthropology would therefore have similarities with the "micro ethnographic" sociological studies, demonstrating the existing similarities among the mentioned authors despite the divergences.

The "network of meanings" that comprises culture implies perceiving that the sense, as an expression of social life inherent to the activity of the subjects, must be understood as a "local" phenomenon. But according to Geertz (1997), a place "a relative term", above all. Geertz (1997) states that the contemporary "shattered world" calls for an anthropology that includes a much more pluralistic pattern of relations among peoples, highlighting the need for more studies on smaller and more specific realities. Hence, the study on "Brazilian culture" moves toward a study on the "culture of the state of Minas Gerais", and then toward the appropriation of the concept of culture by the theory of organizations - the "organizational culture."

Schein (1999) developed the concept of organizational culture as a set of principles of a particular group that maintains the group integrated, and that is taught to new members as the correct way to perceive, think and feel the reality of such group. The concept, however, is dynamic, and can be perceived at several levels: a) visible artifacts, such as the physical arrangement of the organization, clothes, etc. b) principles; c) basic assumptions, often unconscious, but which determine how the members of the group think, perceive and feel the reality of the group. Schein's initial concerns (1980) with the individual, as a member of groups in the organization, initially addressed the "human problems" in organizations, with references to "human nature" - which included biological aspects, as well as the socialization of individuals - but questions about leadership, participation and conflict had not yet been clearly understood from the cultural perspective. In later years Schein's propositions (1992) started to include not only the definition of organizational culture, but also his consideration in a pragmatic perspective that goes beyond a simply understanding approach. The culture of groups, according to Schein, involves shared principles that address, to the members, problems concerning external adaptation and internal integration,

and thence emerged studies on evolution, learning, dynamics and cultural change.

Information and power can assume similar roles in organizational culture, hence the effectiveness of an "anthropology of organizations", or of an "anthropology of information", to address the issue of information.

Studies such as Hofstede's (1984), Laurent's (1981) and Hampden-Turner's (1992) made associations between organizational cultures and national cultures. Barros and Prates carried out a similar study in Brazil (1997). That study identified features as the "concentration of power," the "position of spectator", "personalism" and "avoiding conflicts", in addition to formalism, impunity, personal loyalty and flexibility (adaptability and creativity). Flexibility is important in the Brazilian management system, where the "coexistence of opposites" and solving problems by "managing things" are key. The authors note that the model presented consists of complex and sometimes paradoxical characteristics that coexist, which confirms the features studies mentioned in the classic studies of Freyre, Holanda, Faoro, Ramos, Prado Júnior, Câmara Cascudo and others on the national identity, as well as Arruda's, on the identity of Minas Gerais.

## Methodological considerations

The aim of this study was to propose the concept of "anthropology of information", to understand the management of public health in three municipalities of the state of Minas Gerais, Brazil. The ethnographic method was accepted as interpretation reference because of its power to comprehend the social-cultural habitats of the involved (researcher and researched) and the construction of meaning both in the field of information and communication, as well as in health, challenging the concept that a pragmatic approach is the only one that moves the organizational world.

In this work the ethnographic method brought about the need for an outlook both transdisciplinary and multireferential, that is, the combination of several fields of knowledge happened simultaneously with the search for many sources of information - open interviews, questionnaires and direct observation - in three municipal health secretariats, chosen in different regions of the selected state. The municipalities were chosen because they were defined as key municipalities for initiatives in the health sector by the State Health Secretariat; all three regions are located in a region of initial settlement during the colonial period, thus representing the core of historical formation of the region: Center-South, Center and Jequitinhonha (and in each one the cities of São João Del Rey, Ouro Preto and Diamantina, respectively).

Some categories were defined for the analysis (Table).

**Table - Fields, subfields and categories of analysis**

Fields of knowledge	Sub-fields	Categories	Empirical categories
Information Science	Information, Culture and Society (including culture semiotics)	Information and Society Information and culture Language and meaning Information and State Information systems	- Information collection, production, storage, organization, processing, flow, dissemination, quantity, quality, need and use (in health organizations and in society) - Ethics (informational)
	Information and knowledge management	Information Strategies Information policy Information Technologies	- Information and communication in formal and informal levels (environments) of society and organizations; information for decision.
Anthropology	Social or cultural anthropology; ethnography	Global, national, regional and local culture	- Principles and standards - Traditions, habits, myths and behavior; - Transmission of culture - Subcultures and groups - Brazilian culture and "Minas-ness" - Ethics (cultural)
Administration, Political Science and Sociology	Public Administration	Functional areas: operations (services) management, human resources and marketing (public sector)	- Formal and informal structure (groups, communication and leadership) - Efficiency and effectiveness - Commitment, qualification - Quality in services
	Public policies Sociology of organizations and groups (including micro sociology and social psychology)	Management Levels: strategic, tactical, operational Management functions: planning, organization, direction and control Power and decision making process Organizational culture	- Networks (external interactions) - "Bureaucracy" - Decision - Organizational change - Physical arrangement - Social and group coexistence; roles and types; everyday; socialization - Ethics in organizations
Health Sciences	Collective health; social medicine and nursing, epidemiology, anthropology of health	Care levels: primary, secondary and tertiary Social concept of the health / disease process Initiatives in collective health Paradigms / care models (biomedical model, health surveillance, prevention and health promotion) Meaning of the health / disease process	- Effectiveness of public health initiatives - Health indicators - Work process in the health sector - Health care units; FHP - Interaction: health care professional / citizen - Ethics (Health)
Transdisciplinary Subfield of Information Science: Anthropology of Information	Anthropology of Information in the Health Sector	Social-cultural dimension of information Informational culture (in society and public health organizations)	- Informational behavior - Informational Communication - Meaning and language - Social and group information - Ethics (social-cultural of information management in health sector organizations)

The extensive sample of interviewees involved many different positions, different personalities and, consequently, multiple perceptions, which in some cases could be summarized in a common vision – and sometimes could not. Municipal Health Secretaries, former Secretaries, Directors of Planning, Coordinators of the Family Health Program (FHP), those responsible for the information sector, administrative technicians, workers from the personnel or procurement departments, but also those from the epidemiology area, doctors, nurses and dentists, post-graduates or individuals who have not finished high school - the scope of interviewees necessarily included individuals from within the municipalities themselves and “outsiders.” A total of 15 interviews were conducted in each municipality, where the researcher remained for at least fifteen days in order to make direct observations. Interviewees also had the most diverse backgrounds and origins - engineers who came from the private sector, administrators who were employees of other bodies of the Municipality, long-time and new employees – due to a deliberate choice, which took shape in the location after the first interviews, when it became clear that one intended to achieve a panorama as comprehensive as possible.

## Analysis of results and final considerations

The hypothesis that informational practices in the health sector reflect the social-cultural environment, as well as the political-economic environment far beyond the merely technical or technological aspect was confirmed – thus confirming that the proposed concept of *anthropology of information* is valid. The latter can be conceptualized, to this extent, as an aspect of information science that considers that the needs, production, organization, processing, flow and use of information for individuals or groups are conditioned by the characteristics of the culture of the society where they belong; in this study, which aimed at public sector organizations at the municipal level in the health area, these cultural characteristics involve factors that range from the culture of these organizations and their environment to the global culture.

An in-depth study of this environment made it clear that the phenomenon of administrative decentralization of the health sector, made possible by the State reform of recent decades, has generated some sub-effects: the first was the “localization” of management, which took the shape of local power and culture frameworks. The second was the clash between this local reality and initiatives and practices related to a technical rationality with a modernizing characteristic – including even, but not only, the administration of the health sector at the federal and state levels which, despite having characteristics of the patrimonialist and clientelist Brazilian politics, have a culture of modernizing technobureaucratic characteristics, since the inception of the Unified Health System. This rationale also originates in the Public Health area itself - Epidemiology and the configuration of new health

care paradigms - and in the Public Administration sector, with the replacement of the bureaucratic management model with a more managerial outlook.

The municipality of Diamantina showed the greatest level of disorganization - lack of formalization, planning and use of information available in the databases of Datasus, which are seen as “complicated”. São João Del Rei showed a higher level of such characteristics (formalization, planning and use), but revealed an organizational culture that was more conservative, closed, and less conducive to changes. Ouro Preto showed a conflict between a modernizing team and a conservative organizational culture. The proximity with the capital and the existence of financial resources seems to “push” the municipality towards modernization, where the secretariat fosters a “culture of disorganization.” The physical environment exemplifies some of these characteristics: the secretariat of Diamantina is very open. The population has free access to it, and asks favors aloud. A secretary and an electronic door control access in São João Del Rei. Visits must be scheduled – and there is a waiting period before one is invited to enter. A hallway with closed doors greets the visitor.

It was observed that in the Health Secretariats of the three municipalities studied there were at least three environments that showed many differences in terms of information, configuring subcultures (organizational and informational): the first, the administrative unit – characterized by remains from the public service culture, as shown by the interpretation of the area as having a “dysfunctionally bureaucratic” information management, even though it is changing into a new managerial paradigm at widely different speeds, according to the local size and culture of municipalities. The second, of the service units, where information management is characterized by the presence of doctors, who create an environment of “benevolent technicality” as a response to the demands of the population, and where information is bureaucratically collected to meet the requirements of the DATASUS system, serving as a poor means of supporting the decision-making process of the municipal health sector management. The third is that of the FHP programs, where an environment of cooperation creates a situation conducive to sharing information, which is reasonably utilized in monitoring the program and in the general management of the health sector in all three municipalities, but whose maintenance in each location is threatened by the large number of temporary “administrative contracts”.

Organizational culture was also relatively independent. Although it is conditioned by local culture, it occasionally becomes independent due to the presence of people coming from other locations, or able to upgrade local structures (when this group receives support from the Mayor) – by means of computerization and of a more transparent information management. This tends to create a conflict as it became clear that, in this case, the position assumed by the Secretary and his group often differs from that of the workers of the secretariats

concerning formalization, the need for planning, meeting standards, etc. The organizational culture in the Secretariats, in turn, is undergoing a conflict between the heritage of local traditions and the conservative characteristic of the public service culture when faced with the requirements of the health area and the need for modernization – which generates anxiety and feelings of “incapacity” in many of the employees. The presence of people from the areas of Economics and Administration, or of health professionals with qualifications in public health or social medicine, in strategic positions, however, does not find good acceptance, and seems to represent both a risk for the existing inertia and for the maintenance of traditional interests. The imposition of technological tools of global nature, such as computers and software – is also a paradox, since its presence does not actually imply in the strategic use of information. This limitation fits within the limitations of the administrative mentality, showing the care that must be taken when considering organizations as systems that process information. The same happens with the availability of information through traditional means or the Internet – its existence does not imply availability, let alone use. The path towards “global culture” alternates and combines “provincialism” and *Internet* with some degree of agility, but the use of information technology as a way towards cultural change is not simple. The Datasus of the systems were considered inadequate or insufficient for local managers by interviewees from the state and federal levels, thus hindering the creation of a “culture of usage”. Additionally, all interviewees stated to a greater or lesser degree that they do not trust that the information contained in Datasus` information systems is accurate.

We noticed several elements of “Minas-ness” and “Brazil-ness”, made clear in the literature that deals with the identity of the state and of the country, such as “informality”, “distance from power”, “impunity”, “improvisation”, “tolerance”, “obedience” and “resignation” in all visited municipalities, but in varying degrees. Also, the emphasis on “personal loyalty”, a “passive attitude” and the “paternalism” of those responsible, merged with “personalism” and “authoritarianism” comprise the “flexibility” of the management system. The area with the greatest number of computers and which is most connected to the information systems of Datasus - the “epidemiology sector”- was called the “rich cousin” and is seen, in the municipalities surveyed, as the “busiest and most important”, that is, as the one that is the most different from the other areas. “Centrism”, the “presence of the past”, “respect”, “continuity” and “avoidance of conflict” were also perceived, making up for more conservative and closed institutions and, as some interviewees said, typical of historic cities with highly religious populations. This suggests, at the organizational level, a trend toward an “incremental” decision-making process – which tends to repeat past decisions, making adjustments, which would maintain the status quo – and which, in the case of the health sector, means the maintenance of a social situation with indicators far from those recom-

mended by the World Health Organization - and more resistant to change, such as the introduction of tools and technologies for information management.

The alternation of parties in power walks side by side with the lack of planning and execution of actions aimed at the long term – something essential for the health area. Either way it is clear that, at the informal level of the organizational structure, communications flowing much more intensity and ease, combining technical, administrative, political, financial, personal and group information. Additionally there were also the effects of a “public service culture”, where factors such as job stability, patrimonialism and corporativism constrain the effectiveness of results. The Municipal Health Councils, according to interviewees, usually do not perform “social control”, and the information discussed there is primarily of financial nature, with discussions being marked by local politics. The strongest feature of the global culture was the desire for computerization – seen, however, more as a modernization and as access to the myriad tools that computers and the Internet represent than as a consistent desire for the electronic management of information.

The findings of this paper suggest that the use of information and information technology as a strategy for building the services of social care should be understood from the perspective of a deeper period of social transformation – one whose principles elude the purposes of this study, but which must necessarily understand the social and cultural foundations of information. But this study points to the fact that the informational behavior of those involved is subject to local, regional, national and global social-cultural injunctions, which in turn contain constraints of a technical, political, economic and administrative nature, and that more studies are needed from this perspective, since the anthropological outlook proved to be effective in achieving the proposed goals.

The anthropological nature of this study goes against Leach’s ideas (1978), when it suggests that the ethnography of “other peoples” is often too obscure, and it suggests - mentioning Geertz and his proposal for a “dense description” that “weft and counterweft be loosely woven” since “the only ethnography intimately known by a social anthropologist in the one stemming from their own experience in life” (LEACH, 1978, p.8).

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