

# Information, communication and freedom of expression in the digital city of Sud Mennucci

A report from the Freedom of Expression Project

Nupez / Rits, Brazil  
May 2009

Research team:

Antonio Biondi (research)

Mariana Pires (research)

Graciela Selaimen (coordination)

Rits, the information network for the third sector in Brazil, provides information and training on information and communication technologies, working to empower individuals, civil society organisations, social movements and communities. Nupez, launched by Rits, is a centre for research, study and education into the challenges of the information and communications society. Rits is a Partner in the Freedom of Expression Project. [www.rits.org.br](http://www.rits.org.br)

The Freedom of Expression Project began in 2006 as a response to global changes in networked digital communications. It set out to assess and understand this developing environment's relationships with democracy, justice and human achievement. The Project is working to promote principles to help guide policy and activity in the networked communications environment: the aim is to build an environment that supports human rights and the public interest. [www.freedomofexpression.org.uk](http://www.freedomofexpression.org.uk) The Project is coordinated by Global Partners & Associates. [www.global-partners.co.uk](http://www.global-partners.co.uk)



# Contents

Executive summary	2
1 Introduction	3
1.1 Context	3
1.2 Becoming a digital city	4
1.3 Methodology and research questions	5
1.4 Summary of the methodology	5
1.5 Selection and conduct of interviews	6
2 Findings and analysis	8
2.1 Priorities and challenges for the Municipality	8
2.1.1 Internal priorities and challenges	8
2.1.2 Proposed solutions to internal challenges	9
2.1.3 External priorities and challenges	10
2.2 Service use today	13
2.2.1 Benefits to the city	13
2.2.2 Generational differences	13
2.2.3 Commerce	14
2.2.4 Local businesses and media	14
2.2.5 Local democracy and communication with the Municipality	15
2.2.6 Younger people	17
2.3 Implications for freedom of expression: some reflections	18
3 Conclusions and recommendations	20
4 References	22

## Executive summary

This paper analyses potential challenges to freedom of expression in a ‘digital city’ in Brazil. It focuses on questions of affordable access to communications, the neutrality of communication networks, and protection for the right to freedom of expression.

The **introduction** sets out the reasons for focusing on the Municipality of Sud Mennucci, a ‘digital city’ where the local government provides internet access. The aim is to explore whether and how such ‘digital cities’ are operating in the public interest, maintaining the neutrality of the network and respecting the right to freedom of expression of those who use its infrastructure. It provides contextual information about Sud Mennucci and its digital programme, and describes the methodology and scope of the research undertaken.

The **findings and analysis** include discussion of the following areas.

The Municipality is facing a range of technical priorities and challenges in providing access to its citizens:

- There are service quality problems because the available bandwidth is not sufficient at peak times. Users experience low service speeds and high levels of ‘down time’. The network is not compatible with portable devices. The system architecture and equipment are under review.
- The fact that it is a free service appears to discourage competition and may slow down improvements to service quality.
- It depends on one telephone company for its links and the service is therefore vulnerable to technical problems.

Patterns of internet service use today indicate significant benefits, including: better public education outcomes; improved record-keeping in public agencies; and improved consumer awareness that leads to lower prices for some goods and services. The internet is increasingly used for social networking, particularly amongst the younger generation, but it is so far little used for political or democratic purposes; a culture of personal, face-to-face campaigning dominates.

Reflections on the implications for freedom of expression highlight the importance of careful data handling to ensure the protection of privacy, when local government takes the role of internet access provider. There was some evidence of political anxiety about this research, and of a reluctance to provide information.

The **conclusions** suggest that the Municipality’s provision of internet services has not yet affected people’s experiences of and participation in democracy. However, there are structural challenges that must be addressed to ensure that services: promote participative and transparent processes; consider the exercise of democracy from the outset; and ensure that the exercise of human and social rights is an explicit objective. This work points to the need for deeper analysis of the impact of monopolies in telecommunications on the right to freedom of expression. The imbalance of power between private companies, local political élites, local governments and organizations represents a key challenge to the democratisation of the internet and its full appropriation by society as a public space, within a framework of rights.

The report ends with a full list of references used.

# 1 Introduction

This paper considers the potential challenges to freedom of expression in a municipal ‘digital inclusion’ programme in the town of Sud Mennucci, in São Paulo State. It was the first Municipality in Brazil to implement a wireless internet network and since 2003 has offered free internet access to residents and local businesses. It and other ‘digital cities’ have been cited in Brazil and elsewhere as models of good practice in democratising access to the internet.

This research considers the physical, connectivity and content layers of the communications environment. While local government is helping to promote affordable and equitable access, this is the first study to consider whether and how such ‘digital cities’ are operating in the public interest, maintaining the neutrality of the network and respecting the right to freedom of expression of those who use its infrastructure.

We believe one of the challenges of community networks is to strike a balance between the private interests of the local access provider – the government, with its economic, political and technological power – and the public interest. In Brazil there is no regulation yet to guarantee that local governments’ provision of internet access and services must respect citizens’ rights to freedom of expression. Nor does regulation guarantee the right of opposition parties, the local media or any citizen who may criticize the local government freely to produce and disseminate online content.

We believe it is important to observe and monitor the behaviour of local governments in relation to freedom of expression and transparency, in their role of internet access providers.

## 1.1 Context

The small town of Sud Mennucci is located in the north-eastern part of São Paulo State, 614 km from the capital city. It has only 7,714 inhabitants scattered about an area of 590 km<sup>2</sup> (IBGE 2007). Occupation in the region started with farming families in the early 1940s. The village soon became the district of Pereira Barreto, which was called Pioneiros (‘Pioneers’). Emancipation came in 1959 and with it the name was changed to Sud Mennucci (in homage to the professor and journalist Sud Mennucci, 1892-1948), as there was already an older district with the previous name. The Municipality now also includes the district of Bandeirantes d’Oeste.

Sud Mennucci’s gross domestic product reached R\$ 89.6 million in 2005 (about US\$ 39.2 million) (IBGE 2005) and the per capita income was R\$ 12,695.17 in 2004 (State Government Secretariat for Treasury 2004). In 1980 a sugar cane mill was built, bringing alcohol, sugar and energy production into the local economy alongside agriculture and cattle breeding. Over 16% of local businesses are now bars, fast food places and ice cream shops (Municipal Tax Department, 2005). Sud Mennucci has three bank agencies, three inns, two newspapers, and five dental clinics.

The population is served by two municipal public health care centres and one private one. Over 2,000 children and young people are enrolled in the four pre-schools, three basic education institutions, and one secondary learning institution. In 2007, Sud Mennucci was highly ranked in the Basic Education Development Index (IDEB), an evaluation by the

Ministry of Education and Culture of public education based on school results. It was rated 6.0, far above the Brazilian average of 3.8. Only 10 cities of over 4,000 evaluated achieved that rating.

## 1.2 Becoming a digital city

In 2002, the Municipality was the first in Brazil to implement a wireless internet network. Initially this was for use by the local administration only, but in 2003 the service was offered to the population free of charge. The impetus for the municipal administration's investment in the project was the possibility of reducing internet access costs. Up to this time access had been over long distance telephone connections as there was no local access provider.

The initial investment was R\$ 18,000<sup>1</sup>, with the Municipality's annual revenue around R\$ 14 million, according to data from the local mayor. A contract was signed with the company Telefônica, which installed an access link in the city. With two antennae, servers and radio, the signal was distributed over wireless technology, initially to ten public administration locations. The monthly cost during the first year was R\$ 1,800.

In 2003, the network was opened to the population. By September 2004 there were 82 registered locations and over 300 by December 2005, at a monthly cost of R\$ 4,400. In November 2005, the Municipality acquired new equipment and installed the old equipment in the district of Bandeirantes d'Oeste, 20 km away. By July 2006, Sud Mennucci had 426 points of access and the district had 37.<sup>2</sup>

In 2007, now with 600 points of access, the system was restructured to include new servers, longer reach radios and antennae, and a new 40m tower (replacing the previous 18m one). Total investment in the project reached R\$ 100,000 – a relatively low figure considering that those resources enabled free internet access for a good part of the population.

Currently, two networks meet the local demand. One provides an intranet to municipal administration agencies with 5.8 GHz<sup>3</sup> radios, and the other serves the community with a 2.4 GHz frequency. The distribution capacity of the Wi-Fi signal is up to 1,500 access points.

Citizens can access Sud Mennucci's free internet via access points in public schools or the municipal library. A free private connection is offered to residents, provided they have no outstanding issues with the Municipality such as tax debts or ongoing judicial proceedings, and provided they also have a computer with a compatible operating system and network card. The service is limited to 64 Kbps per access point, i.e. quite a low speed. A final requirement is that they must apply to the Municipality's protocol sector, that is, the department responsible for the register of users.

Businesses may also use the municipal network without paying a fee to the local administration. They may use the network to offer an enhanced service to their customers, as

---

1 Brazil's currency is the Brazilian real or R\$. US \$1 = R\$2.3 approximately.

2 Information available on the Sud Mennucci Municipality web site: [www.sudmennucci.sp.gov.br](http://www.sudmennucci.sp.gov.br)

3 GHz (Giga hertz) is the unit measuring processors internal speed. One GHz is equivalent to a billion cycles per second. One Mega hertz (MHz) is equivalent to a million cycles per second.

bars and cafés do, or charge a fee for the service. In Sud Mennucci three ‘LAN houses’<sup>4</sup> do this and charge an average of R\$ 2.00 per hour.

The Sud Mennucci digital inclusion project has been created and developed locally, not as the result of any specific law. Each year a specific portion of the budget is allocated for the project, which continues to grow.

### 1.3 Methodology and research questions

This research set out to consider:

- the impacts of the digital inclusion programme for consumers, businesses and public services
- the costs and challenges of providing the service; including technical, infrastructure and competition issues
- the role of the internet in the local community, including local democracy
- the implications for freedom of expression.

These research questions will help to shed light on the status of the Freedom of Expression Project Principles<sup>5</sup> in Sud Mennucci and potentially in other digital cities, helping to identify which factors need to be addressed in order for the principles to be upheld. The Principles of particular relevance to this research are the following:

- In the physical layer of the communications environment: All people should have affordable and equitable access to the means of receiving and disseminating opinion, information and culture.
- In the connectivity and code layer: Networks should be ‘neutral’ in the sense that the flow of content should not be subject to undue or arbitrary discrimination for monetary, cultural or political reasons. Controls should not be embedded in networks themselves.
- In the content layer: The right to freedom of expression should be protected. The expansive definition of Article 19 of the ICCPR should be used which includes positive rights and associated responsibilities.

### 1.4 Summary of the methodology

The research was conducted through stakeholder interviews and analysis of existing information. We rigorously investigated and checked all the information at each of these stages: preliminary research and first interviews via email and or telephone; face-to-face interviews; checking the information gathered; further research and writing the report.

The work began with preliminary research on the internet to gather as much information about the city of Sud Mennucci as possible, including socio-economic, cultural and political aspects, and also about the municipality’s experience as a ‘digital city’. We reviewed

---

4 LAN houses are commercial spaces similar to cyber cafés. The majority of users play games in a Local Area Network (LAN). LAN houses also provide internet access, charging for set periods of time.

5 The Project’s Principles and research are available at [www.freedomofexpression.org.uk](http://www.freedomofexpression.org.uk)

institutional websites – such as those of the city hall, the State Government and the Brazilian Institute of Geography and Statistics (IBGE). We analysed news portals, blogs and social network websites. After processing the available information, we conducted the first interviews with local authorities, including the City Council and some of the elected representatives. We had phone conversations with representatives of the Executive, including the elected Mayor, the former Mayor and several Municipal Secretaries.

The next stage was to visit Sud Mennucci and conduct face-to-face interviews. The research team made further contacts and, in addition to representatives of the Legislature and the Executive, interviewed cybercafé users, students, rural workers, small business owners, teachers, trade union representatives, journalists and professionals involved in the implementation of the internet network in the municipality.

The team then checked the information obtained, confirming it with new internet searches, and enhanced some of the data with further interviews as new information arose. We encountered some difficulties in the interview phases because some of the people contacted were reluctant to answer all our questions. One person (a former technician of the Municipality) refused to talk to the researchers – he is now the owner of a private Internet Service Provider in Sud Mennucci.

## **1.5 Selection and conduct of interviews**

We selected the first interviewees based on the results of our internet searches, which identified individuals involved in the network implementation process. The first interviewees suggested other names to contact, and City Hall staff also provided information about people who should be heard. We interviewed a total of 18 people were interviewed, taking care to include representatives of the local government and the opposition parties, leaders from civil society organisations (although they are few), students, internet users in general and representatives of private companies that offer internet services commercially.

### **The interviewees were:**

Valdólcio Bazílio, president of the Union of the Municipal Public Servers of Sud Mennucci (Sindsud)

Paulo Calmon, student

Vereador Elias Couto (Progressive Party)

José Fernandes, employee of Pioneiros Bioenergia (private company)

Leandro Luiz Ferreira da Silva, journalist

Kátia Fonseca, manager of FTD Comunicação de Dados (private company)

Kellen Frota, teacher of the municipal school

Vereador Luiz Garcia (Workers Party)

Fernando Giacomello da Silva, student

Célia Azevedo Gimenez, member of the Council for Children and Youth

Gerson Guimarães, student

Cléber Batista Leal Junior, student

Rogério Nogueira, employee of Solução Informática (private company)

Marcos Izumi Okajima, Municipal Secretary for the Economic and Social Development;

Marcelo dos Santos de Paula, employee of Pioneiros Bioenergia (private company)

Fábio, technician of FTD Comunicação de Dados (private company)

Wagner Silos, proprietary of Tecnomega – Redes/Telecom e Segurança da Informação  
(private company)  
LAN house attendant.

The interviews were carried out between 15 October and 15 November 2008. They focused on five main questions:

1. How do you evaluate access to the internet in Sud Mennucci?
2. How do you use the internet?
3. What problems (general and/or specific) do you identify in relation to access to the internet in Sud Mennucci?
4. What should be improved or corrected?
5. What other possible uses of the internet should be fostered?

We analysed the information as follows: evaluations of the interviews by both researchers; further analysis and discussion of the findings with the research co-ordinator; explorations of the different points of view presented; comparisons of local data and experiences with those of other municipalities and with Brazilian legislation; and evaluation of the data and reports collected on the internet.

## **2 Findings and analysis**

### **2.1 Priorities and challenges for the Municipality**

The operation of the service has presented various technical challenges for the administration and its partners.

#### **2.1.1 Internal priorities and challenges**

The implementation of the internet in Sud Mennucci has taken place over three municipal administrations, of the same political party. The current mayor, Celso Junqueira of the Brazilian Social Democracy Party (PSDB), was the vice-mayor in 2002, elected head of the local Executive branch in 2004 and re-elected in 2008.

The Municipality has sought to use the growth in internet coverage and use to strengthen public policies. Besides the gains in education mentioned above, for example, the Municipality has created a single online file for each citizen, as the basis for all public municipal agencies' information.

Local community health services are in touch with 100% of families, according to the Secretariat for Economic and Social Development of Sud Mennucci. In a local policy that has attracted the attention of other municipalities and public service managers, the administration plans to use this 100% coverage as the basis for collecting other information about citizens' needs. The plan is to transform health care workers into 'social' workers with a broader remit, who will pay monthly visits to each household in order to keep a record of citizen needs. If the project is implemented, the Municipality intends to use the public network internet. The administration has secured Positivo portable computers to enable workers to collect and post information about each household's needs.

However, the internet access technology adopted in the city has some challenges and limitations. The system was designed to work on the basis of fixed access points and an external antenna using a radio frequency signal. It was not designed to ensure connection for mobile equipment such as notebooks, smart phones, and so on.

According to the Secretariat for Development, the Municipality has three main antennae, each designed for 250 to 300 access points. The Secretariat's preliminary data shows that in 2008, the system grew to reach more than 1,300 access points. With around 1,750 households and around 30 new users per month, the Municipality believes that it will reach coverage of nearly 100% of households by the end of the first quarter of 2009.

Current demand places the system close to saturation, with the main difficulties occurring in the peak hours, mainly between noon and 3pm. There is not enough bandwidth (capacity) to support heavier use when more people are connected. The main problem is that the bandwidth available is divided among too many users during these periods, restricting the amount of information they can exchange. In addition, the equipment that distributes the internet signal has a limited distribution capacity: when the number of people connected exceeds that capacity there are connection problems for some users. A further difficulty is that the transmission of the internet signal is via radio, which means that there are some obstacles

such as buildings, mountains, and so on, and also that there is sometimes interference between different users' connections.

The municipal administration understands that the problem is indeed related to simultaneous access by many users, because the current available bandwidth (12 MB) is still insufficient, as assessed by the Secretariat for Development. According to municipal technical staff, the current available link for Sud Mennucci is distributed as follows: 8 MB for the population in the central Municipality, 2 MB for the district of Bandeirantes d'Oeste, and 2 MB for the municipal agencies. Out of the total available bandwidth, consumption would be around 60% during the municipal agency's working hours, whereas at times that do not match municipal agency working hours, the central population has even broader bandwidth, increased from 8 to 10 MB, since the Municipality makes no use of its own allocated 2MB during these hours.

### **2.1.2 Proposed solutions to internal challenges**

The Municipal Secretariat for Development plans to implement a new technology in 2009, which will be able to overcome some of the city's physical obstacles to internet signal transmission and thereby connect portable devices in a more satisfactory manner. The Municipality intends to test the technology of the Israeli company Wavion. This would relay the main data signal sent over municipal antennae, and could therefore overcome obstacles such as walls, though the Municipality still cannot say it will overcome hills and other larger potential barriers.

The equipment currently under consideration would also improve the quality of the internet services. The equipment would be in cells distributed across the city, each one supported by a municipal building or even on electric grid poles (poles that support overhead electric cables). Each cell would have a capacity similar to the current central antennae, but according to the Municipality, would provide better transmission capability and also have the advantage of using the same frequency as that currently used by residents' access points. This would overcome the problem of bandwidth saturation during peak use hours, described above.

According to FTD (Wavion's distributor in Brazil), when more users seek connections simultaneously, mutual interference between devices hinders connectivity. They understand Sud Mennucci's current connection problems may arise from this mutual interference between devices in use, which eventually uses up part of the available bandwidth. Other possible causes could be that the Municipality's access point is saturated or that available bandwidth is not enough for current local needs. The Wavion device is capable of adjusting to peak demands by improving signal quality.

FTD calculates that one in every ten users is normally online. Estimates of the necessary bandwidth for the Municipality should take this into account, together with how much of this bandwidth will be allocated to each user. The company states that large internet access providers, such as Telefônica, Embratel, NET and others, usually estimate that, on average, one in every 20 existing users is using the service – but they believe this is an underestimate that adversely affects service quality.

FTD, which also works with equipment from other transnational telecommunications companies, sees advantages in Wavion's technology. The equipment uses MIMO technology (multiple input and multiple output), which brings the signals coming from a single reference together and sends them in aggregate form, thereby generating broader bandwidth.

Furthermore, according to FTD's technical staff, the proposed Wavion model (WBS-2400<sup>6</sup>) has greater reception sensitivity, far superior to that of conventional access points such as those now available at Sud Mennucci, and which may deliver up to three times better reception capabilities. The equipment is designed for 100% outdoor installation and prepared to resist weathering. Finally, the WBS-2400 has distribution capacity of up to 32 MB, so if the municipal link is enhanced beyond the current 12 MB it will still be able to distribute the new signal. Considering the Municipality's proposed programme for healthcare and social workers, and users seeking connectivity for mobile and portable devices, the WBS-2400 does not require external antennae to capture the signal within a 500 m radius and enables direct access to the internet.

The Municipality also believes that the new technology will lower costs of internet service provision. Since each cell would serve at least 250 households, five are likely to suffice for the entire city. The estimated cost for each Wavion device, composed of a radio with five antennae, is approximately US\$7,500. The Municipality calculates that an investment of US\$10,000 including labour and installation would make each cell fully operable. For the initial five cells, total investment would be US\$50,000 – for virtually the entire city. This would enable the planned digital information programme for social workers as well as other applications. The project is being considered to serve up to 2,000 households, so that the Municipality will not need to make further investment or changes for a long time.

According to the Secretariat for Development, Wavion's equipment is distributed in Brazil exclusively by FTD Comunicação de Dados – a company based in São Paulo that provides technological solutions for internet connectivity. In the region of Araçatuba, a city near Sud Mennucci, Tecnomega is FTD's local vendor. Concerning the services focused on Sud Mennucci's equipment and network infrastructure, the Municipality holds a contract with Solução Informática

Araçatuba's Tecnomega works on Sud Mennucci's digital inclusion project on various fronts, such as in the development stage and in assessing the best technologies for applications. It also participates in feasibility studies and implementation, which, according to the company owner, is being replicated in other cities. Solução Informática is their partner in the Sud Mennucci project as well as in these other initiatives, doing mostly field work. When it comes to the purchase of equipment such as Wavion, municipalities either buy from Tecnomega or directly from FTD.

In Sud Mennucci, Tecnomega started to collaborate with the project at the end of 2006. The company owner sees the provision of services to the Municipality as a way to address some of the technical problems, for example in increasing access. The company confirmed that the main purposes of the tests in November 2008 were to measure how many Wavion units would be necessary to provide complete coverage of the city and to ensure a structure for the public services conceived by the Municipality after this system improvement.

### **2.1.3 External priorities and challenges**

Sud Mennucci is promoted as a pioneering project in Brazil and even internationally, so it is perhaps unsurprising that some of the difficulties it faces are rarely discussed or publicized.

---

<sup>6</sup> This unit was launched in late November 2008 and at the time of writing had not yet been installed in any Brazilian city.

While the Municipality faces technical challenges concerning its own network, such as saturated peak hours and the physical barriers, it also faces limitations as a result of external factors, resulting from the region's limited telecommunications infrastructure.

Broadband internet services, such as Speedy and Virax, effectively came into the region of Araçatuba only three years ago. Sud Mennucci, however, has no broadband network yet. According to the Municipality, this is explained by the fact that such a network is financially uninteresting for Telefônica, the owner of the infrastructure that brings the internet to the city. The administration calculates that the investment required to create a local cable broadband network would be similar to that which the Municipality plans to invest in the new radio transmission cells. The financial returns for Telefônica would not justify this, especially with the municipal administration, as its main competitor, providing free access. The great advantage of Telefônica's service is that it would be distributed via cable and would thus guarantee a better internet signal, with fewer interferences. However, the installation of cables throughout the municipality would be several times more expensive than the structure for radio transmission.

As explained by the Secretariat for Development, the internet only had one dedicated link<sup>7</sup> offered by Telefônica, which was the infrastructure initially used in Sud Mennucci's digital inclusion project. In mid 2008, the Municipality added a second dedicated link, provided by the state's data processing company Prodesp. A Prodesp link is normally made available to municipalities within the state of São Paulo so that public and state agencies may access state government web sites, the government's internal network, and so on. The municipal administration of Sud Mennucci received the new link to use as they saw fit, making it available for universal access projects in the city.

This alternative municipal access to the internet, however, has a significant difficulty. This link also comes to Sud Mennucci through Telefônica cables, so the city is effectively tied to the Spanish company. This research project contacted the company for clarification, but they did not return the information requests we sent them.

As part of the privatization of Brazilian telecommunications, Telefônica won the important 1998 tender for state-owned Telesp<sup>8</sup>, and is now harvesting the profits from this inherited structure and power. In Sud Mennucci, any problem with the dedicated links available to the Municipality becomes a generalized problem: both links are down together, leaving the entire city with no connection. That is what happened in July 2008: the Telefônica system was down in several regions of the state and the Sud Mennucci Municipality, and for 36 hours residents were totally deprived of the connection to the internet.

During the blackout, the Municipality relied solely on Telefônica's dedicated link. Prodesp's link – also based on Telefônica's infrastructure – was not yet in place. According to the Secretariat for Development, the fact that the city had an internal network (the

---

7 A dedicated link is a direct and exclusive connection via radio, wire or fibre-optic cable between two computer networks, with a predefined bilateral bandwidth (in bits per second) agreed by the two networks. In this case, the dedicated link was between the Sud Mennucci municipality and Telefônica.

8 During the Fernando Henrique Cardoso government (President of Brazil from 1994 to 2002), several State companies and services were privatized. Telephony was one of the most important areas, attracting billions of R\$ and huge international companies interested in acquiring both the rights to offer telecommunication services and the state companies. Telesp was the São Paulo State telephone company, one of the most important in the country, serving the richest state of Brazil. It was bought by Telefônica.

administration's intranet, on the 5.8 GHz network) had one advantage for the city at that time. The single citizen file system, for instance, is hosted in the municipal server. So the administration did not face problems in maintaining their own data, appointments and public services because although the internet was down, its own intranet was not.

Yet the situation strengthened the view that alternatives are needed for some municipal administrations in the region – which may also be seen as competition – given the dominance of Telefônica services in the area. Sud Mennucci is in dialogue with other private companies, such as Embratel, owned by Mexican multimillionaire Carlos Slim and equivalent to Telebras, Brazil's main company in the industry before privatization.

A coalition of municipalities in north-eastern São Paulo has entered into preliminary talks about creating a broadband internet ring between their cities, which would be interconnected via wi-fi or via a network linking all municipal networks. They have also had initial discussions about this with federal government departments, such as the Ministry of Planning's Secretariat for Logistics and Information Technology (SLTI). The SLTI was made available to all municipalities to study the issue. Sud Mennucci's Secretariat for Development considers that this integration could create benefits for the region, such as the development of integrated information systems or stronger joint working on health care – provided that an inter-municipal internal network would not go down in the event of any future Telefônica system failure.

Local residents in Sud Mennucci complain about downtime and overloads in accessing the internet, and such complaints suggest there is the potential for other suppliers to offer the service. This is how a second, private, provider came to appear in the city, as an alternative to the Municipal offer, with some 80 users.

The individual in charge of this service has worked in the internet access system originally offered by the Municipality. He later started his own business, on a similar basis to the public project. This research sought to get a better understanding of how this private provider operated, the services offered and their costs, and the differences attracting users to paid services in a city that provides free internet access to local residents. However, the entrepreneur did not respond to the questions asked, even after a visit to the city in early November 2008 (when he cancelled our appointment for an interview). For three weeks we made relentless efforts to obtain information via telephone calls and email, but received no answer.

Tecnomega, one of the Municipality's partners in the digital inclusion project, suggests there are no grounds to believe that the private provider offers a better quality service than the public one.

A LAN house owner in Sud Mennucci says he started his business by paying the local private provider R\$ 80 per month. A year later, he decided to migrate to the public provider since there was no significant difference in the quality of their connections. The business offers eight machines with internet connection, printer and scanner services and online games. Regular customers are lower middle class young people who do not own a home computer. Other people also use the service whenever their home connections are poor (the building is only 50 m from the transmission tower), as do people travelling to the city for the service.

Although he can use the public provider for free, the business owner complains about the connection speed (128 kbps). He would rather pay for a faster connection, but the existence of a free, public provider discourages new, higher-quality private providers from coming in. Businesses using the public provider constitute 9% (nearly 100, in absolute numbers) of the total users registered at the Municipality.

## **2.2 Service use today**

Municipal access to the internet is enabling a wide range of uses: business, services, research, studies, correspondence, dating, gossiping, e-learning, chat, payment, shopping, and so on. A quick walk about the city reveals that the entire population is either using or is willing to use it. For instance, at the city's major steak house, the cash register operator had fun using Orkut (a social networking site) while waiting for the next customer to pay the bill. But there are no blogs yet, of any kind: political, cultural, opinion, economic, or even gossip. Local newspapers do not have pages on the internet and there was minimal use of the network for municipal election purposes in 2008.

### **2.2.1 Benefits to the city**

The internet has delivered some real benefits to the city. For example, the five-member Council for Child and Adolescent Guardianship keeps a log book of reports and incidents. Before the advent of the internet, council members had to photocopy their materials and physically send copies to the State Attorney Office. Internet access has enabled them to make a leap forward in the quality of their work, also helping them to keep abreast of any new developments and to follow up on state and national political issues.

At Sud Mennucci's Municipal Public Servants Union (Sindsud), the current opinion is that the internet represents a major gain for the population in general. For the Union specifically, the absence of fees is seen a key structural benefit, though the wavering signal leaves users somewhat dissatisfied. Union board members use the internet for email, banking and for their regular interactions with attorneys. Other uses include research and support services in the legal department and keeping in contact with other organisations, both in São Paulo State and nationally. Sindsud's assessment is that Internet has helped the Union to strengthen their campaigns, although their president does not yet have access to the internet: employees are the direct users of the technology, in constant communication with the executive board.

### **2.2.2 Generational differences**

Young people are the most regular network users, with higher levels of access. Older generations use the network less, and focus on work-related matters. Removing barriers to access and promoting the older generations' use of the internet present further challenges for the pioneering municipal administration.

This situation is illustrated by a conversation between two interviewees in this research, both bus drivers taking workers to the sugarcane fields that supply the local mills. The mills employ some 200 drivers and 1,500 choppers during harvest time. One of the drivers, approximately 50 years old, did not have a computer yet. He intended to acquire one by the end of the year, for his daughter to use for study and research and he planned to learn to use it himself. But his younger workmate, virtually half his age, did have a computer, purchased

from a local shop because it could offer maintenance facilities. He stated that he usually used the machine in the evening after work as the connection is better. His sister also used it, mostly to study as she was finishing secondary education and preparing to go to college.

### **2.2.3 Commerce**

Commerce has seen important changes with the growth of internet use in Sud Mennucci. One such change that can be identified is the impact on in some businesses' profit margins. As residents started to use the internet to research prices or order products, local commerce had to adapt by lowering their prices.

In turn, Sud Mennucci's Commercial, Business, and Agricultural Association uses the internet to access the national network of commercial information. That allows them to liaise with the São Paulo Commercial Association (ACSP) and provide services and consultation (on credit status and consumer records, for instance) over the internet. The Brazilian Credit Protection Agency (SPC) can also be accessed through the internet. Yet the Association, although it is a major entity in the city, does not have its own website, bulletin board or other communication and organization tools.

### **2.2.4 Local businesses and media**

Virtually no local companies or organisations consistently use the internet for communication purposes. While there are some Orkut communities, blogs, and websites created by local residents – referring to events, parties, and the local social column – in general, they are still rather low profile.

Local enterprises are rarely present on the internet, even though they may be part of a group that has a very well-structured website. A good example of this is Pioneiros Bioenergia group's alcohol plant, the main local industry. In the later stages of this research, the website [www.pioneiros.com](http://www.pioneiros.com) indicated on the Municipality's and sugar cane industry Única's web pages as belonging to the group, was not available. However, the Damha group, which controls a number of local enterprises such as a cattle ranch and an animal feed and mineral complements plant, presents a rather well developed interface on the internet. It is part of the Encalso group, of which Damha represents the main arm in agribusiness. The Damha group is not based in Sud Mennucci, nor was its website developed there.

The Municipality is not only an internet access provider for the vast majority of city residents but is also the local player with the most important website. The administration's web page is currently a vital source of information, for example about the city's profile, revenues of the Executive branch, investments, main infrastructure developments and initiatives, tourist attractions, and so on.

Neither of the Municipality's two newspapers, the *Sud News* and the *Jornal da Cidade*, has a web site. They both plan to, though the time-scales are uncertain. The recently-launched *Jornal* plans to build its audience, consolidate a permanent team of professionals, identify its market share, establish a consistent strategy to reach the audience and achieve the financial sustainability to maintain an internet connection – only then will it consider developing an internet version of the newspaper.

With Municipality and City Council advertisements and announcements among the main source of funds, the independence of these vehicles is another issue to consider. Since political relations in the Municipality are not easy, everybody knows each other and there are lifelong rivalries, achieving balance in media coverage appears to be crucial. Excessive criticism or favouritism towards some of the city's strongest political groups is highly undesirable, and a publication is likely to find itself 'punished' for this with restricted access to politicians or to advertisement funds in the future.

The *Jornal da Cidade* does not plan to focus exclusively on political issues. Tourism, for instance, is likely to be a key area. The newspaper's efforts to consolidate its audience are likely to focus on promoting the city, which is located on the margins of the Tietê river, near the Paraná river and the state border with Mato Grosso do Sul. The *Jornal* top management's view is that, while Sud Mennucci leads the way in terms of the internet, the Municipality's website needs further development overall and specifically in relation to tourism. In comparison with the websites of other municipalities in the region, Sud Mennucci's can certainly be improved.

### **2.2.5 Local democracy and communication with the Municipality**

Unprecedented events during the 2008 municipal elections demonstrate the importance of a better structured, informative and reliable website to the everyday life of local people. Part of the Municipality's website was down during most of the campaign, to avoid the risk of opposition accusations that the incumbent was using the administration's web page in his re-election campaign. This decision, an act of virtual self-censorship on the Municipality's part, illustrated how communications issues can become complex in some circumstances, and demand hard choices.

Celso Junqueira's campaign team hired an outside company to use the internet strategically in the campaign, including cellular phone messages sent via the web. On the other hand, the campaign of PTB's candidate João Evaristo, who finished second in the elections, made less use of the internet. So little, in fact, that an email sent by an Evaristo constituent was a noteworthy event – in which he declared his dream changes to the city, supported the opposition candidate and criticized the incumbent. Some other people also took electoral actions via the internet (through Orkut, under an MSN nickname, sending emails to friends, and so on), but these were not designed by campaign co-ordinators or carried out in an organised fashion.

Despite the strength of the internet in the Municipality, local residents still prefer to go and shake hands with politicians – a key symbolic action, and an element that helps to illustrate the nature of the electoral process in Sud Mennucci. The city does not make use of radio campaigning, so if candidates want to be successful they have to do their best at personally engaging with constituents. Democracy in Sud Mennucci is essentially based on every single vote, person-to-person, gained in the streets going door to door, after each handshake.

Sindsud (the Municipality's public servants union) chose to avoid direct involvement in the elections, on the grounds that it is not the organisation's role to support any candidate. A member of the current union board, treasurer Antonio Marco Lisboa, was elected city councillor by the PDT (Partido Democrático Trabalhista, the Democratic Labour Party). Lisboa did not run an internet campaign, either with hired assistance or on his own. To amass his 272 votes, or 5.14% of the overall constituency, and rank fifth amongst the nine city

councillors elected in 2008, Lisboa based his campaign on his own capacities and charisma, built over the last eight years and with door-to-door campaigning.

Some describe democracy in Sud Mennucci as the city still living in the days of *voto de cabresto*<sup>9</sup>; others point to interesting democratic advancements in the district of Bandeirantes D'Oeste.

For example, one person interviewed for this research claimed that people would like to participate more, to get organized and make demands, but they are afraid of exposing themselves and do not all feel they have free choice in their vote. This is a typical phenomenon in small Brazilian cities. The situation is that a very few political groups (often historically composed of entire families) impose their power over the great majority of the population, making arbitrary decisions that affect cities' political and economic reality. Disputes among these influential groups are intense and affect freedom of choice and civil liberties for the majority of the people. People tend to have very strong identifications with one or other political group, and this identification enables politicians to intensify their control over their supporters. Although this phenomenon has been decreasing during Brazil's history as a republic, there are still situations in which politicians control the votes of their supporters and protégées, or even buy the votes of impoverished people (for example with a pair of shoes, medicine, etc.). It is often easy to find evidence of this at election times.

Another respondent, a resident of Bandeirantes d'Oeste, reads the situation in a radically different way. A teacher at José Benigo Gomes Primary School, she described how a 'district group', a type of homeowners association, had direct communication with the Municipality. Residents hold meetings to identify local needs and set priorities. Typically, meetings are attended by one person from every block in the neighbourhood, who brings the opinions of their neighbours. On more controversial priority decisions, the district group undertakes surveys. Of four local priorities recently established in Bandeirantes d'Oeste, three have already been implemented by the municipal administration and the fourth, a community centre, is about to be built.

The local internet signal in Bandeirantes d'Oeste has also improved, which has helped communications. Previously the weak signal had prompted complaints from some residents that this was potentially 'digital city' discrimination against them. The reasons for the difficulties included a growing number of users and the quality of the transmission equipment; and when devices were replaced with greater capacity ones, signal downtime was reduced. This has enabled local residents to make fuller use of the internet, such as online education. For example, one local higher education programme requires one day of physical attendance at local university facilities, with internet-based activities on the remaining days.

In common with many other cities away from the biggest urban centres, or located in regions that are not of interest to telecom companies, Sud Mennucci faces several challenges. These include: creating universal access to the internet; the quality of the internet signal offered to the network users; and the costs and feasibility of having a broadband connection. This situation itself poses structural challenges to the exercise of the right to freedom of expression. In addition, the municipal network's reliance on the services of a sole company for access to the internet places it in a difficult position in relation to its autonomy and

---

<sup>9</sup> Literally, 'vote in a halter'. This refers to a system of maintaining political power by the abuse of authority or by buying votes.

sustainability. This imbalance of power between a local government and a private company, and its consequences for democracy and freedom of expression, should be more deeply analysed.

However, the Municipality's initiative, in offering free internet connection for the local population, has been both innovative (one of the first of this kind in Brazil) and successful. This research shows that the Municipality's provision of internet services not yet affected the exercise of democracy by the population. However, this may change as people's awareness grows of the internet's potential to foster the expression of different views and a plurality of voices. Because the internet is as yet little used by the local social and political leaderships, it is possible for the government to take an impartial or 'non-interfering' role in the management of the local network. What we highlight is that this may not last forever – and this possibility must be addressed in studies, research and recommendations for policy makers and regulators in this field.

### **2.2.6 Younger people**

Young people in Sud Mennucci use the internet in their daily lives to broaden their horizons, not only in educational activities but also in politics.

Cícero Castilho Cunha State School has over 900 students, in primary and secondary education and in distance learning, who have all become more familiar with the internet year by year. The most popular uses are related to study, email and socialising via MSN, Orkut, and so on. High school students and their physics teacher created a blog where they solve problems, post questions, discuss test results and so on. But when students need to debate an important issue, the school's fraternity groups usually prefer face-to-face contact (as in the municipal elections); they visit all classes to talk to students directly rather than use email for example, or create a virtual newsletter or a specific blog.

However, in the last electoral campaign, some student fraternity members supported PSB's (Partido Socialista Brasileiro, the Brazilian Socialist Party) Lucas Ganga running for city councillor in 2008 and used Orkut messages to amass votes. Ganga received a total of 209 votes, equivalent to 3.95% of the valid ones, in eighth place among the nine councillors elected. The candidate in tenth place received 188 votes – only 21 fewer than Ganga, suggesting that even simple Orkut activity may have a decisive influence, which could become significant in future municipal elections.

Students in the José Benigo Gomes municipal school, in Bandeirantes d'Oeste, have begun to innovate in their use of the internet. They are keen to learn how to create websites and blogs, but shy about demanding the tools that may enhance their access to information and freedom of expression; they hesitate to say that the state government or the Municipality should offer such courses. Careful not to challenge the municipal administration, one student respondent suggested that those courses could be brought to Sud Mennucci by an NGO or a company.

The José Benigo Gomes school currently offers a Microsoft 'Student-Monitor' programme in partnership with the municipal Secretariat for Education, which emerged as a result of recent enhancements to the municipal education sector. It is an online course for teachers, students and the community, aimed at teaching IT skills and increasing the use of IT facilities. One student using the José Benigo Gomes facilities was already developing websites for local

businesses and expected to develop a blog. He said that others were also considering it though had little idea yet of how to do so.

### **2.3 Implications for freedom of expression: some reflections**

While little data exists about communications use in Sud Mennucci, the findings and experiences of researchers during this project prompt some interesting reflections about this situation, where internet access is provided free by the Municipality.

This research, the first conducted in the Municipality, found no incidences of any websites ceasing to operate or being explicitly censored by the Municipality due to calumny, slander, insult, ill-faith or because of publishing some challenge to the Municipality. Ironically, the Municipality was itself the only 'victim' of any such restrictions, as it disabled part of its own website to avoid potential problems in the 2008 municipal elections.

Yet the fact that the Municipality is the main internet access provider highlights some key issues, including data sharing, monitoring of citizen's internet use and data protection.

The local population is small and the information on access to the network lies in the hands of the Municipality as a provider. These characteristics certainly increase the risks related to the use and sharing of data, so data handling must be as careful as possible. The administration is currently reviewing the mechanisms for monitoring employees' internet use during working hours, in order both to follow up on employees' use of their working time and to improve security of its intranet. This deserves more thorough debate about the nuances involved.

For example, one of the organisations consulted in this research considered that it was important to check whether citizens were using websites that were 'not recommended', and considered that in some circumstances punishments could be appropriate for such 'improper' use of the free internet access. Yet they also felt it was unacceptable to monitor how long people spent on research and other work-related activities.

Every internet service provider has to keep a record of user navigation activities. This record keeping is commonly part of the operation of ISPs. It is both for their own security in case of legal disputes or cases of improper or even criminal activities, and also for their internal management and accountability. User navigation data must be kept in secrecy, but they are stored so that providers may protect themselves against potential user issues with the law.

Reports of situations in Sud Mennucci have highlighted these issues. One young woman was slandered on Orkut by several other users but decided not to go to court. Under Brazilian law, it is possible to gain access to information about an individual's communications only if this is requested by a court. An individual can apply through a court but this is usually a long process and so many people give up. In this young woman's case, the Municipality holds the records of how many and which users simultaneously accessed the Orkut site, but it would have required requests to the courts to retrieve the data from Orkut and identify who was responsible for which statements. The victim decided not to proceed.

During this research project, the first of its kind, we experienced some difficulties in obtaining information and discussing the issues in detail. Articles and studies published about the Municipality and its digital inclusion programme have to date been broadly positive

about the policy, as is appropriate. This was the first more independent and potentially critical research initiative, and some respondents' behaviour reflected anxieties about this.

For example, one respondent was concerned about the use that could be made of his statements, and chose to photocopy the researcher's interview notes. We also note that one Municipality team member chose to make a 10pm telephone call to the hotel where a research team member was staying, to ask about the project, who was being interviewed, and what the purposes of the investigation were. We do not consider that people's unfamiliarity with a more searching investigation justifies this kind of communication. While concerns are natural, communicating in this way can appear as attempted intimidation.

At the time there was an ongoing dispute about the municipal elections, involving several legal actions (about overturning the selection of candidates, challenging a victory that had already been accepted by the courts for a few days, and ratifying the re-election of the current mayor). There was no reason for local leaders to confuse these local political conflicts with the work of researchers who were studying the democratic and communication experiences of the city in broader terms. But according to the individual who made the telephone call, the research was seen as controversial enough to raise suspicions that it was being conducted in collusion with the current administration's political opponents. This, apparently, made the researcher appear as some kind of 'opposition spy' – the expression the caller used in that conversation.

It is possible that a range of conflicts involving freedom of expression may arise from the free public provision of municipal internet access, in any city or town. Sud Mennucci, as a pioneering administration, will potentially have difficulties as a result of facing them first and needing to develop responses. But its successful experiences in developing digital inclusion and collaboration should help to create the right conditions to address them.

### 3 Conclusions and recommendations

The experience of Sud Mennucci can be considered a successful one, particularly because of its innovative character. The implementation of the municipal network has brought advances to the city and its population, although this been quite an intuitive process, with no prior strategic planning by the local government.

The use of the network by the population is still very passive – the internet is still seen mostly as a one-way medium. Its interactive potential – in a city where the media are not characterized by their vitality and plurality – has yet to be explored by users. This lack of appropriation of the internet for citizen empowerment may be a consequence of the way the municipal network itself has been built: a creative and well-intended government initiative, but conducted with very little community participation.

We believe that the more participatory the process of a municipal network implementation is, the more democratic will be the management of this network and the services provided. The social appropriation of the public network – and its consequent consolidation as a space for democratic participation and free expression – is directly related to the level of accountability and transparency guaranteed by the local administration, as well as the level of public awareness about the possibilities offered by the internet as a space where individual, social and political rights should be respected and defended.

We suggest that the construction and maintenance of an open architecture and transparent management of the municipal network, with the active involvement of all stakeholders, are key factors required to avoid any kind of filtering, traffic shaping and even censorship by the government. This is particularly important taking into consideration the political environment of some of Brazilian cities, as described in this research.

- The linkages between historical concentration of power in the hands of a few families and ownership of local media have been systematically explored by some of the leading researchers on media and democracy in Brazil. **We recommend** that the possible extension of historical political influence to local internet networks should also be systematically observed and analysed.
- **We recommend** that local steering committees should be created to supervise and evaluate the operation of local networks, with representation from different interest groups. This would be good practice in the creation of open architectures, promote transparent management and good governance of municipal networks and ensure that infrastructure is built and used for the public good.
- **We recommend** that strategies are developed to raise public awareness of the empowering potential of the internet. It is important to avoid a purely technological approach and to find ways to promote a perception of the local internet network as a public structure with profound implications on the social, cultural, economic and political life of the city. This is highly desirable to help build a positive environment for the full expression of human rights, including the right to freedom of expression.

- **We recommend** that capacity-building initiatives are considered as an important crosscutting element, to ensure that municipal internet networks are both democratic and participative.

## 4 References

A Rede Magazine

‘Cidade sem provedor se liga via Wi-Fi’

[http://www.arede.inf.br/index.php?option=com\\_content&task=view&id=92&Itemid=99](http://www.arede.inf.br/index.php?option=com_content&task=view&id=92&Itemid=99)

Electronic Government Department of the Ministry of Planning, Budget and Management

‘Sud Mennucci é um caso de sucesso em inclusão digital no Brasil’:

<https://www.governoeletronico.gov.br/noticias-e-eventos/noticias/sud-mennucci-e-uma-caso-de-sucesso-em-inclusao-digital-no-brasil/?searchterm=fornecimento>

Época Magazine

‘Um exemplo de transparência’ <http://revistaepoca.globo.com/Revista/Epoca/0,,EDG77169-6009,00-UM+EXEMPLO+DE+TRANSPARENCIA.html>

Folha Online Newspaper

‘A exemplo do terceiro setor, governos investem em inclusão digital’:

<http://www1.folha.uol.com.br/folha/dimenstein/noticias/gd240305f.htm>

‘Acesso à internet muda hábitos de cidade de 7.500 habitantes no interior de SP’:

<http://www1.folha.uol.com.br/folha/dinheiro/ult91u93212.shtml>

IBGE (Brazilian Institute for Geography and Statistics) website: [www.ibge.gov.br](http://www.ibge.gov.br)

Impacto Online Newspaper

‘Eleições em Sud Menucci serão decididas pelo TSE’ (em cache)

<http://www.jornalimpactoonline.com.br/noticia.php?id=5292>

Info Online Magazine

‘Sud Mennucci, em SP, vira cidade-provedor Wi-Fi’

<http://info.abril.com.br/aberto/infonews/022005/09022005-16.shl>

O Estado de São Paulo Newspaper

‘Um cantinho Wi-Fi no interior de São Paulo’

[http://www.link.estadao.com.br/index.cfm?id\\_conteudo=2828](http://www.link.estadao.com.br/index.cfm?id_conteudo=2828)

‘Investir em educação não garante reeleição’

[http://www.estadao.com.br/estadaodehoje/20081014/not\\_imp259379,0.php](http://www.estadao.com.br/estadaodehoje/20081014/not_imp259379,0.php)

Orkut: Google’s social network: [www.orkut.com](http://www.orkut.com)

Overmundo website

‘Sud Mennucci, a cidade online’: <http://www.overmundo.com.br/overblog/sud-mennucci-a-cidade-on-line>

São Paulo State Treasury Secretary’s website : [www.fazenda.sp.gov.br](http://www.fazenda.sp.gov.br)

Sud Mennucci City Hall website: [www.sudmennucci.sp.gov.br/](http://www.sudmennucci.sp.gov.br/)