

ICT CONTRIBUTION TO A NGO'S DYNAMICS: ANALISYS OF GUINE-BISSAU'S "ACÇÃO PARA O DESENVOLVIMENTO" WEBSITE

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In this article we describe and reflect upon a set of different parameters that helped us analyse the website of a Non-Governmental Organization (NGO) from Guiné-Bissau. Our way of approaching the website can give the NGO a clearer vision on their social network and quality of the knowledge network.

The parameters that we use usually belong to the website's webmaster domain. They rely on statistical data collected from the website's visitors (a technology that is easily embedded in the website). We expect that our reflections may help NGOs such as the one we studied achieving a larger and better perception about themselves and their social network. Ultimately we expect that our study can help NGOs redesign their website to better fit the current Internet.

Keywords: *Development, Hyperlink, Website, Knowledge, Social Networks*

Why do NGOs want a website?

Civil society organizations don't belong to the set of actors that are announced and cherished on the current technological revolution. Still having a website or a server is a matter of strategy as information and communication technologies (ICT), although not a panacea for the problems of development, can create powerful networks (as economical, social, technological and cultural networks) that can be seen as a springboard to development.

Development touches a diversity of thematics and technology use is one of them. It cannot be seen and though isolated and by its own complexity it must imply a multidisciplinary approach.

The *web* is a medium where NGOs with limited resources can empower themselves, be more widely visible, heard and able to interact with their sponsors and public. But as the use of the technology is conditioned by the cultural context where the technology is introduced it is more fruitful to study the way people interact with technology than speculating on whether a certain technology will lead to a specific outcome. In other words, the effects of a technology are more correctly measured if we focus on the social practices that evolve around its use rather than focusing on assumptions based on the properties of the technology.

We see that Internet use is clearly differentiated in territorial terms as it is a reflexion of the different distribution of the technological infrastructure, richness and education of the planet. Network geography is a geography of inclusion or exclusion and depends on the social dominant interests granted to a specific place.

The info-exclusion concept is usually related to the difference in ITC access but the fundamental exclusion is not measured by the number of connections; it is measured by the consequences that the connection or lack of connection have. Internet isn't just a technology; it is a technological instrument and the organizing form that distributes the power of information, knowledge creation and the capacity of networking in any context of human activity.

Reflecting on the NGOs and ICT relationship, through the case study approach, seemed us very pertinent in the sense that it implies the analysis of the NGO's dynamics. The conclusions of this analysis can be reabsorbed by the NGO producing knowledge *about development* and *for development*.

“Acção para o Desenvolvimento” ONG's Website

The idea of building an institutional website for the Guiné-Bissau's NGO for Development Acção para o Desenvolvimento (AD) happened in mid 2004 as a result of a partnership between Leiria Politechnic Institute (Instituto Politécnico de Leiria - IPL) where the authors work and the NGO. IPL's objective was to give solely the technological know-how (web site development and hosting) leaving its planning, contents and structure to the NGO. The website became online on the 2nd of October of that year (www.adbissau.org).

Initially AD just wished a small repository of information to give the world the opportunity to know the NGO and its activities. Therefore the site was designed and implemented as a sober data bank. But as AD became aware of the impact of the site, through the feedback of its visitors, the website became a more ambitious project and a different strategy was

defined to answer the needs of its visitors. This time IPL's intervention was bigger and suggestions were given about the contents and structure of the site. This was based on several collected good practices of the 3rd sector's websites that the authors found relevant. Today the site is in its 4th version and has the following layout (fig. 1):



Fig. 1: Current layout of AD's website.

This layout divides the site in “areas” where static, dynamic and interactive content are defined. By static content we refer to the initial data bank that has the nuclear information about the NGO (like their objectives, staff, activity reports, projects, etc.). Dynamic content is all about events that have a window of time opportunity in the site, as an agenda of following events, news about the status of some projects, a “photo of the week” column, etc. These aim to give the NGO an historic perspective about itself (as all information is kept as a digital memory) but also to show its time dynamism to the world, mainly to the partners that participate as financial donors. Some issues like the “photo of the week” is also good way for auditing/evaluating the NGO's actions by those partners.

Finally, and this is a recent feature, interactive content is content created by its visitors. Currently AD's website has just a web forum where people may give their opinion about food and agriculture policies in Guiné-Bissau. This came after a very positive experience in another website developed for this NGO where a symposium about the colonial war was put online. Soldiers from the two sides of the war gave very positive contributions in the web forum of the site which lead to a better organization of the event and also as a way to register stories about the war in order to be preserved in historical archives.

Forums and any other kind of interactive content make visitors feel as active participants in the NGO's dynamics and will be better explored in the next version of the site (as explained in the conclusions).

Study on hyperlinks: websites as social networks

We can study (“read”) a website from several different approaches; one of these, which may not seem obvious at first, is studying a site as expression of the social network of the

organization. As Shumate & Dewitt (2008) propose “Hyperlinks are evidence of the interrelated nature of a community of organizations and these hyperlink networks are of increasing interest and importance”. Authors who studied this problematic concluded that some NGOs social hyperlinks are a reflection of their offline relationships while other NGOs use them to amplify this same social network.

As websites may have functionalities embedded that register several parameters about its visitors and requests (under the form of statistics) the webmaster of the NGO can use them to analyze the website according to any dimension, namely under the social network perspective. For this matter, one parameter that can be analyzed is **traffic source**. Traffic source refers to statistics that analyze how did the visitors came to the website. We can define traffic source in 3 main categories:

- The visitor typed the website address directly in the browser;
- The visitor typed a keyword in a search engine and arrived at the website;
- The website was referred by another website (through a link) that the user clicked.

This last category can measure, in a sense, some aspects of the social network of the NGO as it reflects the people or organizations that, for some reason, by writing about something relevant they found the NGO website as trustful of giving visitors knowledge about it.

We have analyzed AD website under this perspective. The data and the conclusions are illustrated in fig. 2:

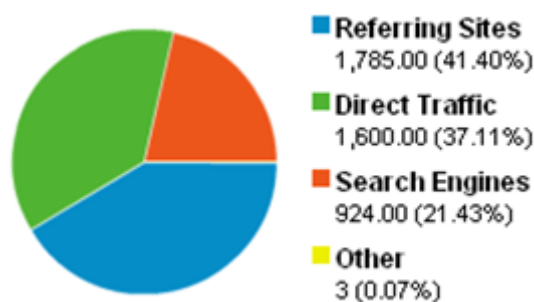


Fig. 2: AD's website traffic source (by type)

The graphic shows the number of visitors that arrived to the website in the period of 1 of September 2007 and 1 of September 2008. We can see that about 41% of visitors came from referring sites, a category that surpass the other two categories.

We also show here a more detailed snapshot of the top five sites where visitors came from (fig. 3):

Referring sites sent 1,785 visits via 111 sources

Site Usage		Goal Conversion	
Visits 1,785 % of Site Total: 41.40%	Pages/Visit 1.88 Site Avg: 1.98 (-4.63%)	Avg. Time on Site 00:02:03 Site Avg: 00:02:22 (-13.53%)	
Dimension: Source ▾			Visits ↓
1.	didinho.org	517	
2.	consuladogeralguine-bissau.org	276	
3.	gumbe.com	220	
4.	bloqueforanadaevaotres.blogspot.com	162	
5.	africadetodossonhos.blogspot.com	111	

Fig. 3: Top 5 referring sites where visitors came from.

This table shows us that 1785 visitors came from 111 sources (i.e. 111 websites) and it gives us valuable data to make some reflections. For example, what kind of websites do visitors come from? In other words, what is the type of relations/social network?

Analyzing the data from this period (a significant sample) we arrive at the following conclusions:

Type of website	N. visitors	Percent.
Personal sites (Blogs, ...)	873	52,7%
Government inst.	276	16,6%
Portals	228	13,8%
NGOs/Associations	215	13,0%
United Nations	34	2,1%
Academia/Research labs	27	1,6%
Links in emails	5	0,3%

Table 1: Visitors from referring sites (absolute and relative numbers)

About 50% of referring Web traffic came from “personal” relationships; we can see that about 0,3% come from links in emails (probably personal as well) which also shows that hyperlinks and social networks don’t have a border on the website but that all cyberspace can be seen as a one unique and great website as Pierre Lévy (2001) defends.

Several studies show that hyperlinks between NGOs and other institutions can establish trust, authority, legitimacy and endorsement. We can see in the table above that about 33% of traffic comes from government, NGO, academic and United Nations institutions. We find very interesting that the 2nd most “path” for visitors, according to fig. 2 is the Guiné-Bissau’s government consulate in Portugal that gives this NGO website special relevance in its main page as one of the 4 “useful addresses” (see <http://consuladogeralguine-bissau.org/entrada.php>) ; also the fact that 34 visitors (about 2% of the sample) came from an United Nation’s webpage (International Labor Organization) is also worth mentioning.

Study on hyperlinks: websites as newtworks of knowledge

A website demands a certain systematization of its information and, therefore, a strategy for the hyperlinks based on that systematization. If the information isn't enough segmented, the visitor has a bigger effort in selecting the information that he looks for. On the other hand if the information is modular the visitor may find it better (assuming the structure of the site was well implemented). Also as it is up to the visitor the choice of hyperlink navigation (connection between modules) it is multiplied the occasions of production of meaning which enriches the reading considerably. We can conclude therefore that creating hypertext documentation is a complex structuring task, of building significances and framing in several contexts, which require lots of planning from the NGO.

Cyberspace travelers search for content (and significance) through search mechanisms and websites such as Google. Users insert keywords (key concepts) in a text box and hope that the search engine has in its core a reliable process of adequacy to the desired significance. In "the old days" search engines used a "keyword strategy" to find pertinent webpages. This meant that they just compared the user typed keyword with the keywords that the webpages had embedded in them (introduced by the webmaster of the page) and suggested the webpages that gave better matches.

Today search engines use an "hyperlink structure strategy" to see its pertinence. This means that, among other things, search engines study the number of hyperlinks from referring sites to a web page as a way to predict its importance and quality.

Therefore, to analyze the "Acção para o Desenvolvimento" website content quality, it is interesting to see statistics about visitors that came from search engine queries and what kind of keywords they typed.

Fig. 2 illustrated that about 20% of this ONG visitors came from search engines. Here is another snapshot that particularizes the most typed keywords:

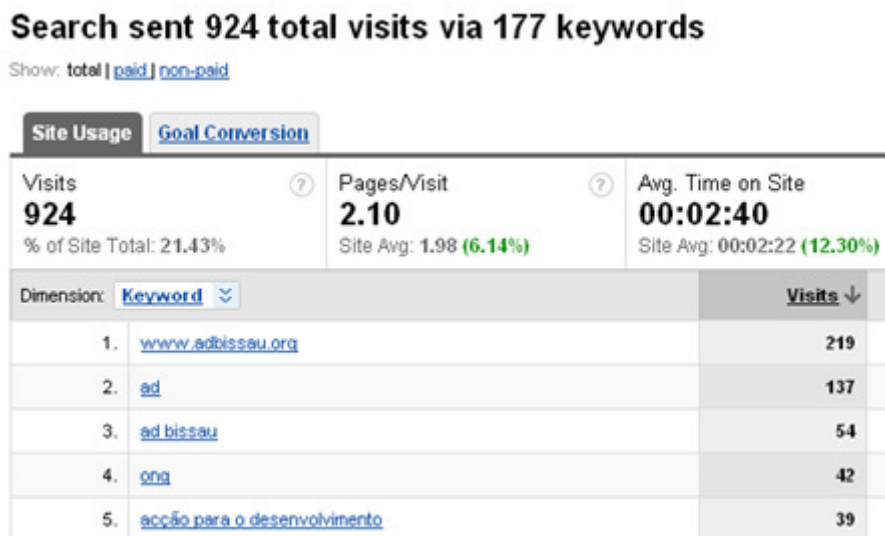


Fig. 4: Visitor's top 5 most queried keywords on search engines.

As we can see in the period of 1 of September 2007 do 1 of September 2008, 924 visits came from search engines through a total of 177 keywords.

This data shows that the great majority of people used the search engine to look *specifically* for the NGO website address and didn't get there by a "content" keyword¹. As we can see from the top 5 most typed keywords just one, the 4th, can be considered a "content" keyword: 42 people typed ONG – which stands for the Portuguese acronym for NGO. This is, in some way, a measure of the quality of the content of the website as search engines are forwarding people to *Acção para o Desenvolvimento's* website when they just look for information about NGOs. This number (42 people) is even bigger as analyzing other typed keywords (not in the top 5) we see that people type the same keyword but spelled differently (ex: O.N.G or O N G).

But some interesting results also appeared. Although not in the top 5 list, people got into AD's website by typing the following keywords:

- Desenvolvimento comunitário (*community development*)
- Escolas para crianças (*schools for children*)
- Microcrédito Guiné (*Guiné microcredit*)
- Rádios comunitárias (*Community rádios*)

We haven't enough information to further conclude on these keywords; some may have been typed by people who did not know AD in the first place; others might know AD and were looking for special programs of this NGO (as the keywords above can also be seen as the names of projects that this NGO has in Guiné-Bissau). But we have some statistical data that can help us see the quality of the knowledge of the website as it happens when visitors type the word "Cantanhez" in search engines (fig 5):

[PDF] [\(Microsoft Word - Informa\347\343o de Cantanhez.doc\)](#)
Formato do ficheiro: PDF/Adobe Acrobat - [Ver em HTML](#)
O clima de **Cantanhez**, é predominantemente tropical húmido com duas ... **Cantanhez**, a AD com os parceiros conseguiu inventariar 207 espécies de ...
www.adbissau.org/guinebissau/areasprotegidaseparques/parquedecantanhez/informacaodecantanhez.pdf - [Páginas semelhantes](#)

[PDF] [VENHA CONHECER CANTANHEZ A MATA MAIS BONITA DA GUINÉ-BISSAU](#)
Formato do ficheiro: PDF/Adobe Acrobat - [Ver em HTML](#)
O ecoturismo no Parque Nacional de **Cantanhez** compreende entre outros o ... Também o turismo histórico onde se valoriza o facto de **Cantanhez** ter sido o ...
www.adbissau.org/adbissau/temasnaordemdia/Ecoturismo.pdf - [Páginas semelhantes](#)

Fig. 5: Two google suggestions for the word "Cantanhez".

Cantanhez is the name of a natural park in Guiné-Bissau. As we can see Google gave the AD's website as a suggestion in two, very modular, different aspects: Cantanhez as a natural park (1st link) and Cantanhez as a way for Ecotourism (2nd link). This is, in our opinion, a clear sign that the website structures its knowledge in a modular and (hopefully) efficient way to the visitor.

The relation between knowledge and social network

Bark & Stark (2008) focus on the relation between these two studied issues, knowledge and social network:

“since the creators of [website content] are *people*, not machines, it stands to reason that asking the right person might be the best way to find information you are looking for”

We found this pattern when we analyzed the keywords typed in search engines; for 11 times the name “Carlos Schwarz”, which is the executive director of AD, was queried during this period (about 1,2% of all queries). This may be seen as a sign of a strong leadership and/or charisma. It is also very interesting to see that by 18 times it has been his nickname (“Pepito”) that was queried (almost 2% of all queries). The informal nature of parts of the site – namely the fact that Carlos Schwarz also addresses himself by his nickname in the website – makes it easy for Google and other search engines match the keyword with the NGO’s site/person. A lot more could be told about the website’s informal language as it could also be analyzed to study further deep the NGO’s social network, but it escapes the scope of the current study and article.

Conclusions

We feel that we are just beginning to study the tremendous possibilities that NGO’s website analysis can give to the NGO own dynamics. Further studies must be conducted with the great amount of data collected in 4 years of activity.

We are exploring the possibilities of the Web 2.0 paradigm to the next level (version) of the site. In this paradigm the site decentralizes and overcomes the limits of its borders even further, by being present in the main online communities on-line, such as YouTube (videos), Flickr, Picasa (photos), Blogspot (Blogs) and Del.icio.us (social bookmarking). This paradigm seems to have two great advantages to NGO’s: first, it’s the NGO that goes to the visitor (it doesn’t expect to be “luckily found” by a query in a search engine) and second, these Web 2.0 sites offer several already made technical tools which don’t require too much technical know-how to use them. YouTube, for example, has forums around its videos, as well as rating tools, bookmarking, statistical and embedding capabilities for blogs and other personal and institutional sites. This will be, we expect, a good way and strategy to decrease the need of technical know-how from partners in industrialized countries and a way that NGO’s can have a better control on their ICT infrastructure.

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ⁱ It is interesting to see that the most typed keyword is precisely the NGO Web address. This suggests that these 219 people knew the web address of the NGO but typed it in the wrong place: they typed it in the text box of the search engine instead of the text box of the browser itself (the so called “address bar”)