

#### The Global Library

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# The Global Library

#### **Abstract**

The Agenda 21 is the United Nations' action plan for the 21st century in favour of sustainable development. Launched at the Rio Earth Summit in 1992, its 40 chapters include social, economic and ecological actions to be implemented by local authorities, governments, but also by corporate companies and services.

Twenty years after the Earth Summit, our proposal is to apply the Agenda 21 to library management and development and to move on to the global or sustainable library. Based on the concepts of global performance and corporate social responsibility, we describe five main dimensions, e.g. social, societal, ecological, commercial and economic performance, and encourage a conceptual framework for the evaluation, management and development of libraries and information services.

Special attention will be paid to modern information and communication technologies (ICT). With regards to Agenda 21, the role and impact of ICT is complex. The focus on technology bears the risk of neglecting other aspects but ICT may be extremely helpful for the development of the global library. It should be evaluated against criteria from Agenda 21, as a tool but not goal on the way to sustainable development. This includes aspects like the ICT's social impact and recycling.

The paper will provide a new approach, a conceptual framework that may be helpful for the development, evaluation and education of library services.

"Meeting the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations 1987) - does sustainable development matter to library? Librarians may be committed to ecology and environment. Yet, the literature about the future of the library most often deals with modern information and communication technologies (ICT), business models and society. That is not wrong, but it is not enough. Our proposal is to put the concept of sustainable development at the heart of library and to adopt the international action plan called Agenda 21 as a framework for library research and development.

Twenty years ago, the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil, produced some important documents on biological diversity, climate change and sustainable development. This conference, also known as the Earth Summit, furthermore agreed on an outline for action. The challenge was to define a global policy that brings together ecology, economics, culture and society. The governments rose to this challenge with the "United Nations Programme of Action from Rio" called Agenda 21. Adopted by more than 178 governments, the document contains 40 chapters divided in four

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<sup>1</sup> http://www.un.org/esa/dsd/agenda21/

sections on social and economic dimensions, on conservation and management of resources for development, on strengthening the role of major groups and on means of implementation.

The action plan does not prioritize environmental concerns over social or cultural policy. Poverty, human health conditions and settlement development are part of Agenda 21, together with deforestation, biotechnology and freshwater resources. Also, the action plan is not limited to international organizations, national governments and local authorities but involves all social and economic stakeholders - business and industry, trade unions or scientific communities in a double top-down and bottom-up strategy. Relevant for our purpose are two aspects.

- As a reference paper, Agenda 21 is the source of further papers, declarations and agreements, such as the Agenda 21 for culture. Its philosophy is not static. It is a **global framework** for local action. Local authorities especially implement the action plan on the level of townships, boroughs or regions, with specific programs for their fellow citizens.
- 2. Industry and business started to develop their own blueprints for **sustainable development in organizations**. Corporate social responsibility or CSR, the commitment "to behave ethically and contribute to economic development while improving the quality of life"<sup>2</sup>, has become a key concept of strategic management and marketing.

So, what about libraries? A recent monograph on the future of libraries describes in detail the "library in 2050" but does not mention environment or sustainability (Baker & Evans 2011). This seems problematic in the early 21st century with growing concern and awareness surrounding ecological issues. Our proposal is to (re)set the library at the heart of societal debate, and to suggest a global strategy for libraries based on Agenda 21.

# **Global performance**

There are many interpretations of what global means, in particular in the context of the UN's "think global, act local" motto. For the library, "global" implies to add other, external criteria when making decisions and setting goals. Local decisions should contribute to sustainable development of local and global environments, i.e. natural but also social and economic environments.

"Global" entails a holistic approach to the evaluation and marketing that does not prioritize one aspect over others. The global perspective does not exclude the traditional analysis of marketing and financial management but incorporates the investigation of work conditions and human resource management, the relationship with community and society, and the contribution to the protection of the natural environment.

Yet, there is a fundamental difference with the traditional approach to marketing and management. Following Drucker (1954) marketing is "the whole business seen from the point of view of its final result, that is, from the customer's point of view". The goal of marketing is to create new customers. The concept of global performance defines a different objective. Rephrasing Drucker, we could affirm that

<sup>&</sup>lt;sup>2</sup> = the definition of the World Business Council for Sustainable Development (WBCSD), see <a href="http://mhcinternational.com/articles/definition-of-csr">http://mhcinternational.com/articles/definition-of-csr</a>

with Agenda 21, the goal of marketing and management is to create conditions for sustainable development. This is the most important goal, more important than the number of customers or revenues. Whereas Drucker would have said "without customers, no development", we reply "without sustainable development, no customers at length".

In the time of climate change and resource depletion, social responsibility is not a bonus but a necessity. Agenda 21 requests that the strategic planning of libraries should take this into account. With regards to library development, this means that it is not enough to ask "what is our library's service?", "who is the user?", "what is value to the user?", "what will our library be?" and "what should it be?" (Drucker 1954) but that we should add a sixth question "how does our library contribute to sustainable development?" In the context of ICT, this means that new technologies, too, should be evaluated applying the Agenda 21 criteria.

Global performance is a multi-level concept. Library management should take into account five different levels:

- 1. **Social performance**: the library's activities that impact employees, partners, suppliers, stakeholders and so on. For instance: work conditions (including technology), human resource management, ethics...
- 2. **Societal performance**: the library's activities that impact the communities, local authorities, and all other members of the public sphere. For instance: cultural actions, relationship with politicians, cooperation with schools and higher education...
- 3. **Ecological performance**: the library's activities that impacts the natural environment. For instance: waste reduction, recycling, energy-efficient work conditions...
- 4. **Commercial performance**: the library's activities that impact the service quality and its users' satisfaction. For instance: quality management, customer satisfaction survey, benchmarking...
- 5. **Financial performance**: the library's activities that impact economic indicators. For instance: rationalization, investment, purchasing...

Often, social, societal and ecological performance levels are put together under the term of corporate social responsibility (CSR) a concept well established in industry and business. The International Organization for Standardization launched guidelines (in 2010) for socially responsible behavior (ISO 26000) that draw attention to the importance of social accounting, i.e. reporting on strategies and actions with impacts on business ethics, society and environment.

For libraries, the challenge is double: they need to adapt their existing toolkit of evaluation and reporting to the concept of Agenda 21, and they need to adopt the established methods of other service sectors, wherever necessary and possible. For libraries, the concept of global performance is not only helpful to mark out their specific contribution to sustainable development but it is also a powerful argument for patrons, local authorities, government, sponsors, university management and so on.

Below, we will describe the five aspects of global performance, with special attention to ICT. Some ideas are not really new for the library, but others are. Yet, what is new is the interconnection between the different levels of global performance, and the acceptance of sustainable development as an external criteria for library management.

## Social responsibility

One of the best known definitions of social responsibility is given by the World Business Council for Sustainable Development (Holme & Watts 2000): "(Corporate social responsibility is) the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as the local community and society at large."

This new concept of management has been applied to service industry, and it also provides a new framework for library management. We can identify four aspects:

**Ethical behavior:** Libraries should be committed to behave ethically, e.g. to edit and apply deontological rules. After long debates on ethical librarianship and in the light of Agenda 21, these rules may include ethical neutrality, refusal of censorship, and respect of the reader's convictions, beliefs and interests. Staying neutral is not easy, especially when "political, religious, or financial interference in (...) decision-making and (...) service provision is becoming increasingly common" (McMenemy 2007). A specific ethical challenge is the rising attraction of ICT. The development of ICT is not only a technical but also an ethical problem for library professionals and users. Respect of individuality, human dignity, intellectual property and privacy therefore become crucial concepts in modern librarianship. Ethics are important to create a trustful and confident relationship with users, and librarians are involved in creating guidelines, policies and "netiquettes" at local, national and international levels (Sturges 2002). Winston (2005) highlights the role of education for future ethical leadership in library and information science.

Contribution to economic development: We suggest a generic interpretation in the way that libraries should value creation in their specific sector, may it be culture, education, R&D or sciences. Librarians are generally conscious of their contribution and potential for their community and society. What is needed is an awareness of the ecological aspect of libraries, as well as aspects of accountability and transparency. Of course, commitment to value creation also implies that the return on investment and financial worth must be evaluated. But value goes beyond that, also including human capital, relational capital and so on (see below). Simply stated, libraries should not act in a vacuum but accept their role and responsibility in culture and society. The library's contributions in transmitting information, disseminating research results, raising awareness and providing education in media literacy all seem to play a role in culture and society. This is true in particular for ICT where libraries contribute to the availability of material (hard- and software) and to the information behaviour education.

The workforce and their families: The library committed to social responsibility should care for its employees. This part of global performance is often called social performance, a concept that covers initiatives in favor of working conditions (ergonomics of ICT environment...), training (new library systems, web services, discovery tools...), human resource management, wages and so on. The underlying idea is that any managerial effort to improve the quality of life of the workforce and their families not only contributes to the (local) development of the (global) community but also enhances the quality of service, through higher professional and social competencies, reduced absences and turnover, enhanced empathy and greater loyalty to the employer.

The local community and society at large: The last facet of social responsibility is societal performance, i.e. the level of commitment to improve the quality of life of the local community and society at large: the role of libraries in their communities, as part of local and cultural policy. Several books and articles have been written on the library's political dimension, and librarians are educated to be aware of their social and political responsibility. Agenda 21 marketing adds three aspects: it draws attention to the development of adequate services for the disadvantaged sections of society (poverty, exclusion, digital divide, ageing, immigrants). It includes the relationship with suppliers, contractors, and other business partners. And again, it does not endorse the social performance as an important yet somehow stand-alone initiative, but puts it in the context of commercial performance, ecology, financial management and so on.

Social responsibility is meant to improve the global service offer. On the whole and from a marketing viewpoint, these types of initiatives are not a part of the usual library's core service offer. Still, these initiatives contribute to the development of new and innovative peripheral and complementary services, such as learning centres, idea stores or community offices<sup>3</sup>. Yet, there cannot be one single model for the socially responsible library, nor only one way to improve social and societal performance. It all depends on commitment, knowledge and competency, and on the specific environment. A successful model may fail under different circumstances. Here more than elsewhere, sustainability is a challenge for public libraries.

### The green library

Library services are relatively clean, compared to power plants, chemical industry or road transport. Their carbon footprint is smaller than a coal plant or a blast furnace. Yet, libraries consume energy and water, buy chemicals and produce waste. As any other service, they are affected by questions of environment and pollution, and should be concerned about these topics. With regards to Agenda 21, the question is not whether they are involved in the environmental cycle but how they perform.

There is a growing body of articles, reports, websites and books about the green library, and the ecological performance of libraries has been the object of several meetings and conferences. More specifically, we can distinguish at least four different action levels:

**Awareness:** The first action line is to raise awareness, and alert the staff and stakeholders about issues related to ecology and the environment. If the local authority has already voted an Agenda 21 action plan, the library does not need to raise awareness, but should implement the action plan.

**Evaluation:** A second level consists in checking the libraries' carbon footprint and its ecological impact. The evaluation of ecological performance can make use of an increasing number of checklists, standards, guidelines or recommendations for best practices which are published on the web or elsewhere (McBane Mulford &

<sup>&</sup>lt;sup>3</sup> See the early and very interesting initiative of Price (1997) that extends the electronic library to the concept of community offices for the development of ICT, especially through education and training of the public in the use and application of information systems.

Himmel 2010), and provide a more or less detailed and reliable ecological profile with "hot spots" (priority problems) and a baseline when measuring improvements.

**Action:** There is (almost) no limit for action in favor of waste reduction, recycling, saving energy and so on. Some of these actions may require a high level of effort, others less; then there will be differences in the magnitude of impact and return on investment. Some actions are linked to new buildings or important renovations (green roof); others can be implemented at any time (use of energy-efficient light bulbs, recycling of paper). McBane Mulford & Himmel (2010) provide an exhaustive list of ICT related actions that may green libraries. Some examples: telecommuting (work from home or in a shared office close to home), electronic controllers for irrigation systems, office equipment with Eco label (less energy use), reduced glare on computer monitors, programmable controls for heating and cooling, regular maintenance to extend life of equipment, sustainable materials and resources, recycling and reuse of equipment, going paperless and networking, digitization projects<sup>4</sup> ...

**Education:** Education in ecological literacy is another option, no doubt more in line with the library's traditional role and mandate. The idea is to provide information on ecology-related issues to the library's public. This may consist of several different actions: re-defining acquisition policy, building the collection, indexing and classifying, creating a specific website, hosting events, exhibitions, workshops... this would probably also imply networking with the community, with non-profits, NGOs and so on. At the same time, these actions would also increase the library's societal performance.

More and more libraries all over the world are committed to ecological performance and can serve as models or benchmarks, such as the Fayetteville Public Library (AR), the National Library in Singapore, the Crowfoot Library in Calgary (Canada) or the Cooroy Library in Sunshine Coast, Australia.

Ecological performance will often operate in synergy with social, financial or commercial performance, better working conditions, reduced expenditures and indoor pollution, creating a positive image and strengthening the community's commitment to the library. Also, new (ecological) procedures and constraints (zero paper) may foster innovation and new services.

## Service quality and user satisfaction

Commercial (or business) performance characterizes the efficiency of a service provider in terms of previously set goals. A marketing strategy based on the Agenda 21 action plan appraises commercial performance – e.g. increasing number of customers, evolution of sales, market share, customer satisfaction... - as important and necessary for the development of a service. Agenda 21 does not oppose financial and commercial performance but rejects the idea that those are the only strategic goals and the only evaluation and auditing criteria. Sustainable development needs financial governance and business development, but that also includes environmental action and social responsibility.

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<sup>&</sup>lt;sup>4</sup> Digitization projects and recycling of IT-related resources challenge environmental library management (Rowley 2006).

Now, does it make sense to speak about commercial performance for a library? Most libraries are not meant to make business or increase sales. Still, a library is a service like any other, with users and usage, projects and objectives, and its performance can be evaluated in terms of quality, efficiency and satisfaction – the same criteria that define commercial performance. So let us take a step back and consider how the concept of commercial performance can contribute to the understanding and marketing of library services, as part of global performance and linked to sustainable development.

"If you cannot measure it, you cannot improve it." Lord Kelvin's famous quote about **measurement** illustrates our first point. The concept of commercial performance introduces the issues of previously set goals, effectiveness and efficiency. Does a service set clear goals? Does it attain these goals (effectiveness)? And if so, does it save or waste its resources (efficiency)? These issues can be measured. They can be presented using performance indicators, and they can be the very heart of service marketing<sup>5</sup>. ICT can help, through automatic monitoring, data collection, workflow management and dashboards.

Even with clearly set goals, measuring effectiveness is not simple. A library usually surveys its users' satisfaction through interviews, questionnaires or direct observation, and satisfaction is taken as an indicator for effective service delivery. Yet, service marketing is aware that **satisfaction depends on several factors**. The quality of the service is one of them – not as an objective factual statement, but as a subjective experience, a unique encounter between the customer and the service provider. Other variables influence the experience of quality and satisfaction, such as expectations, attitudes (also towards ICT), learned habits, values, brand (service) image, information literacy and so on. Satisfaction involves personal, social and cultural aspects. For instance, the so-called Google-generation may be disappointed of a library that does not fit with their information behaviour.

Another way of evaluating effectiveness and efficiency is through **quality management**. As a kind of in-house counterpart to user satisfaction, quality management strives towards consistent objectives and procedures, assured quality with defined and accepted quality levels for service transactions and products, and continuous concern and improvement. Public and academic libraries are more or less familiar with quality management. Crucial to our argument is not the standardized and resource-intensive ISO9000 management but its underlying philosophy – the focus on measurable goals and features, on monitoring, corrective action and improvement of service quality and process. Again, the contribution of ICT to quality management is important.

Yet, these marketing concepts should not mask the real challenge for the library, which is to be a **user and community-centered service**. This may appear trivial but it isn't. Saying that the library must have excellent knowledge of its users is trivial, and a lot has been written about this. But – who are the library's users? An abstract citizen in need of information literacy and culture? Individuals registered as patrons? The local community or the campus? Different communities? The Google

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<sup>&</sup>lt;sup>5</sup> See the evaluation of "potential impacts (of ICT-related public library services) in the areas of employment and income, education, communication, culture and leisure, health, and e-governance" in the Global Libraries initiative (Sawaya et al., 2011).

generation looking for information, not books? To decide who the users are is already making a strategic decision.

More and more, customers want to be taken seriously, treated as partners, and so do library users. Are they objects or subjects of the library? Since an increasing part of communication, interaction and service transaction is online, how does the library organize and manage its web community? In the corporate sector, **social networks** have started to modify innovation, information, communication and even human resource management in depth. Library 2.0 is definitively on the agenda. Yet, so far, the library struggles to adapt the 2.0 tools to a traditional library framework, instead of changing its framework. Applying Agenda 21 may facilitate the acceptance of ICT which can improve the contact with the community and society.

The people make the place. **Relationships and interactions** are important for the quality of service and the experience of satisfaction. Again, this may seem trivial. Empathy<sup>6</sup>, friendliness, reactivity, competence, respect and understanding should characterize the relationship between librarian and patron. Although, beyond the usual librarian-patron tandem, there are now interactions with other users, with groups, friends, classes and so on. The library is moving from the individual reading sphere to an open space of learning, information, working, communication. Academic and public libraries become "learning centers", and this is not only a linguistic change, but impacts the library's standards and norms. Interaction with others, formerly often prohibited or limited, is now encouraged. The library becomes a living space, open to the academic or community environment.

The contribution of Agenda 21 is to highlight the library's responsibility for community and society and to add that quality and satisfaction are not the only criteria for management and evaluation.

# Financial performance

Library managers are generally used to some form of financial governance and to reporting their financial performance. This may take the form of a table with revenues and expenditures, a balance sheet or a dashboard with some significant indicators. Good financial performance is one condition for service efficiency, and the evaluation of financial performance is necessary to decide on acquisition policies and the development of the library's collection, on investments in hardware and software, in furniture or buildings, in recruitment, training and so on. Agenda 21 places the financial performance in the context of global performance and sustainability, together with social responsibility, ecology and marketing. What does this mean?

First of all, this does not necessarily mean another way of accounting but **another use and interpretation** of the results. Applying the principles of Agenda 21 to the library leads to developing a philosophy of accounting, accountability and transparency on the long term.

**Communication** is essential. Accountability and transparency are important for the image and the credibility of the library, which in turn impact its funding,

<sup>&</sup>lt;sup>6</sup> The importance of professional empathy for social inclusion policy in public libraries has been described by Birdi et al. (2008).

sponsoring and support. For this reason, the library should not limit the appraisal of financial performance to the funding body and/or the board, but include other groups, such as patrons, community, media, corporate partners, lobbies and so on. All of these stakeholders are interested in the library's performance albeit not for the same reasons, and they don't need the same information. Hence, the library management should track some key accounting ratios, i.e. indicators of financial performance shaped for different target groups and organized into a financial dashboard. Here, ICT is necessary in order to facilitate data collection and to reduce work load.

Applying the philosophy of Agenda 21 will avoid two risks. Financial results will not be over-emphasized, and they will be presented in the context of **social responsibility**, environment and service quality. Of course, funding bodies and local authorities are genuinely interested in getting feedback on governance and efficient use of allocated resources. But this feedback will be weighed in with other results; it will be seen as one but not as the only contributor to the sustainable development of the library and community.

Agenda 21 may prompt the library to evaluate the financial impact of its action in favour of sustainable development. In other words, the accountability could include more than traditional library statistics. So far, financial ratios focus on acquisition and collection development, inscriptions and usage. With regards to Agenda 21, **other financial ratios** could be added, derived from recycling, energy consumption and efficiency, lifelong learning and training, work conditions, cultural action and so on. Also, library management could develop a robust risk management that would include these aspects.

Finally, developing a strategy in favor of sustainable development will facilitate the adoption of new modes of financial accounting, in particular for the evaluation of **added value and return on investment**. Because of the non-market nature of library services and resources, it is difficult to estimate their value and to provide data on return on investment and funding. It has been a couple of years since some libraries have started to apply the contingent valuation method (CVM) and other stated preference techniques, which are based on surveys and were initially developed for environmental resources (air, water...). It may be too early to determine the benefits of these techniques for library management. Nevertheless, they provide some interesting perspectives for the assessment of library performance and to measure the economic value of library services. Also, CVM appears useful for marketing and communication, as a kind of intuitive indicator and argument.

#### Towards the global library

Sustainable development, as we wrote above, is on mankind's agenda. The United Nations action plan Agenda 21 is clear on one point. The solution can not be found on the local level; though without local action, there will be no global solution.

Local level, this is our conviction, includes the library. The library is a service like any other. At the same time, it is part of a local community, or a local academic campus, and is as such a stakeholder in their local policy in favor of sustainable development.

Twenty years after the Rio Earth summit, the library's mandate should no longer be confined to traditional concerns about collection preservation or helpdesk assistance, but should also include a contribution to sustainable development. Thus, our proposal is to apply the Agenda 21 to library marketing and management, as a conceptual framework to evaluate, set goals and make decisions in libraries and information services. Not so much to reinvent the library, but to rethink its way of working, its projects and objectives, in terms of sustainable development – this is the next challenge for marketing and management. And this should also apply to the management and usage of new technologies.

ICT are vital for the future of the library but they are not neutral with regards to social and ecological issues. They may be extremely helpful to green the library or attain other Agenda 21 related criteria. Yet, they need to be checked against these criterias, like other library tools, procedures and equipments.

The library is a cultural institution, supporting education and research, but it is more than that – it is also part of the local community and, like any other service, is a potential contributor to the sustainable development of society and mankind, and should be evaluated within this framework. The Rio+20 United Nations Conference on Sustainable Development 2012, twenty years after the first Earth Summit, reminds us that "sustainable development emphasizes a holistic, equitable and far-sighted approach to decision-making at all levels. (...) It rests on integration and a balanced consideration of social, economic and environmental goals and objectives in both public and private decision-making." Libraries are but a small piece on the global game field. Yet they are part of the game, and society needs their specific contribution for sustainable development.

# **Bibliography**

- D. Baker & W. Evans (eds.) (2011). Libraries and society: role, responsibility and future in an age of change. Chandos Pub., Oxford.
- B. Birdi, et al. (2008). `The public library, exclusion and empathy: a literature review'. *Library Review* **57**(8):576-592.
  - P. F. Drucker (1954). The Practice of Management. Harper Collins, New York.
- R. Holme & P. Watts (2000). `Corporate social responsibility: making good business sense'. Report, World Business Council for Sustainable Development, Conches Geneva (CH).
- S. McBane Mulford & N. A. Himmel (2010). *How green is my library?* Libraries Unlimited, Santa Barbara, Calif.
- D. McMenemy (2007). Librarians and ethical neutrality: revisiting *The Creed of a Librarian*'. *Library Review* **56**(3):177-181.
- M. Price (1997). `The Community Office: A logical extension of the electronic library'. *The Electronic Library* **15**(6):463-468.
- J. Rowley (2006). `Libraries and environmental management'. *Library Management* **27**(4/5):269-279.
- J. Sawaya, et al. (2011). `Advocacy and evidence for sustainable public computer access: Experiences from the Global Libraries Initiative'. *Library Review* **60**(6):448-472.

<sup>&</sup>lt;sup>7</sup> http://www.uncsd2012.org/index.php?menu=62

P. Sturges (2002). `Remember the human: the first rule of netiquette, librarians and the Internet'. *Online Information Review* **26**(3):209-216.

United Nations (1987). `Report of the World Commission on Environment and Development. General Assembly Resolution 42/187, 11 December 1987'. United Nations, New York.

M. Winston (2005). `Ethical leadership: professional challenges and the role of LIS education'. *New Library World* **106**(5/6):234-243.

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