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Effectiveness of digital library services as a basis for decision-making in public organizations

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A B S T R A C T

In practise, public organizations often provide basic and widespread access to digital services to citizens and to varying degrees. For the effective use of public funds it is necessary for there to be an objective method for the assessment of the effectiveness of the public services (i.e. including digital services). A methodology that can analyse the effectiveness of the digital services provided by public organizations is proposed. The methodology was applied to the digital services provided by the Municipal Library of Prague (MLP). This methodology allows comparison of the effectiveness of the different services provided. This contributes to the effectiveness of the decisions of public representatives and overall social effectiveness of the digital services provided. The results show that the effectiveness of digital services (provided by remote access) at the MLP in 2012 is 4.02 (this means that each unit of financial investment brings benefits in the amount of 4.02 units). In contrast, digital services provided directly in the library have a very low effectiveness, i.e. 1:0.89, thus they are clearly ineffective. In addition, when compared to all the services that are provided, digital services have the highest effectiveness of all. The proposed methodology can therefore help economic decision-making but also to improve the quality and range of services. It can be used in other organizations and various public sectors.

1. Introduction

Effectiveness is a frequently discussed term these days and is increasingly being applied to the public sector. Public sector theory suggests that unfortunately the public sector quite naturally tends towards ineffectiveness (Stiglitz, 2000; Provan & Milward, 2001). This does not mean that other ways of minimizing this "natural rate of ineffectiveness" should not be sought. Currently, there are many examples that show us that such ways exist and that new procedures applied in entirely new branches of the public sector really allow for much more effective use of public resources (e.g. education — Psacharopoulos, 1994; health and safety — Eaton & Nocerino, 2000; public libraries — Kaufman & Watstein, 2008).

Public sector institutions face the difficult task of deciding on the allocation of funds from the public budget to ensure the production of public services every year. Their resources, however, are significantly limited (Ball, 2009, p. 1) and therefore they must provide appropriate criteria according to which the money is redistributed (for more see Park & Jayakar, 2013, p. 515). During their selection it is often necessary to pay attention to the occurrence of so-called performance paradox, which often occurs in the public sector and talk about the non-correlation between the actual outputs of the public sector and indicators that these outputs refer to (Van Thiel & Leeuw, 2002). The most frequently used criteria are the level of effectiveness (Hedley, 1998) and the level of return on investment of public funds (Plaza, 2006; Watstein and Kaufman NSE, 2008). Interest in return on investment (ROI) by public sector organizations continues to grow. In a recent survey of 2200 public sector organizations, 523 respondents suggested that interest in comprehensive evaluation based on ROI includes federal, state, county, municipal, and city/local agencies (Phillips, 2004). Level of effectiveness and ROI indicators are useful as an argument for the governing bodies of public authority (such as regional government or councils) and to justify the existence of several collective goods and services (Aschauer, 1989).

When analysing the effectiveness of public services it is necessary to deal with many problems. One of the main problems is caused by the character of public services, their intangible form, and their difficulty to be evaluated using normal methods and procedures. These problems also include complicated measurement and evaluation of outputs. All of these issues must be seen in the context of the public sector, i.e. the part of the economy where there are no usual market patterns and a lack of commonly occurring prices and self-regulatory mechanisms.

Many foreign experience and studies (Pung, Clarke, & Patten, 2004; Kamer, 2005; Griffiths, King, & Aerni, 2006; Chung , 2008, Duncan , 2008; Hider, 2008a, 2008b; Kim, 2011; Ko, Shim, Pyo, Chang, & Chung, 2012) show that for the example of public libraries there are suitable procedures for defining the outputs of public services and also evaluating their usefulness for users — citizens. These procedures were developed

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to evaluate both conventional (paper-based) as well as electronic services, including digital services (Schwartz, 2000).

2. Problem statement

Information is increasingly required by citizens in a digital form. Public libraries are responding to these needs by expanding their digital services. Although their share in the total services provided is continuously increasing, there are only a few studies that have evaluated their effectiveness (one of them is Bannister & Connolly, 2014). In the literature there are a number of papers focusing on a valuation of the effectiveness of library services as a whole, but they lack a focus on specific services, especially digital services (see the study by Ball, 2009, p. 557 — who recommends it for future research).

This contribution therefore aims to fill this gap and demonstrate a calculation of the effectiveness of digital public library services using the example of the Municipal Library in Prague. The uniqueness of this methodology is its focus on the various services provided by public organizations, i.e. not a calculation of its overall effectiveness. This is possible only on the basis of a questionnaire survey, which aims to determine the value of the benefits of the individual services. To calculate the corresponding costs it is also necessary to monitor the frequency of access to the digital services. In this study it is shown that in particular digital services provided through remote access have a high rate of return in effectiveness compared with other services provided by the public library. These findings have important implications not only for the management of public libraries but also for the provision of other public services such as health care.

3. Digital services of the library

According to the IFLA/UNESCO guidelines from 2010, the basic criterion of the services provided by public libraries is as follows: services must be physically accessible to all members of the community. This requires, inter alia, the appropriate equipment in terms of information technology like software and access to databases or information sources. This helps to create a range of services for those who are unable to visit the library (Koontz & Gubbin, 2010). Public libraries and the services they provide are a long-term investment for the benefit of the community and should be adequately funded. It was found that even in the richest societies it is not always possible to secure adequate funding for all services. Therefore, it is important that the services are developed based on planning and prioritization. Such a process is inevitable in all cases, which are independent of the available sources of funding of library services. As part of the strategic planning and fulfilment of the set priorities it is necessary to elaborate a categorization of library services, which should be periodically re-evaluated and modified in case of the delivery of new services (Koontz & Gubbin, 2010).

Library services can be broadly divided into the following:

- Primary Services — document services — to make available primary documents stored in library collections. It involves both self-service and assisted borrowing;
- Secondary Services — bibliographic search and reference services (also: document graphic (document describing) and factual (fact describing) services), and bibliographic information services (access to electronic catalogues of OPAC, internal and external databases, processing searches and current content services);
- Tertiary Services, and Promotional Services;
- Special Services (for example, as required by the municipality or based on specifics and traditions at the point of application); and
- Spending Time in the Library (including access to the Internet).

The disclosure and dissemination of information as a fundamental role of libraries is increasingly performed using information and communication technologies and the Internet. Libraries must keep pace with the development of ICT and an ever-changing society and must therefore continually expand and improve their range and quality of services and technologies used to educate their staff and to prove to the public that the library is not just a "lending library", but also a modern information and education institution providing digital services both in the library and through a remote approach (Hernon & Calvert, 2005).

Public librarians who have experience in developing community information and referral (I&R) files are particularly well-equipped to contribute to the development and management of networked community information services, given: their skills in creating, managing, and using complex files of community data; their familiarity with personal assistance in the provision of these services; their expertise in targeting information needs; and their understanding of their own communities (Durrance & Schneider, 1996). At their most vibrant, library digital services (Bishop, Tidline, Shoemaker, & Salela, 1999):

- Develop and distribute tools, like software and computers;
- Identify and encourage participation from community groups;
- Provide training about use of tools and provision of information;
- Foster a rich information space that includes email, listservs, and newsgroups;
- Link real and virtual communities through social and information-sharing gatherings; and
- Establish public access terminals in comfortable, "neutral" settings (Martin, 1997).

Public budget financing limits and customer demands are nowadays transforming staffing levels, service models, access to resources, and services to the public libraries. Administrators and taxpayers are seeking more efficient ways of delivering services to achieve greater returns on financial investments.

Casey and Savastinuk (2006) offer a new dimension for information services provided by public library and named it "Library 2.0". This new model for library services is being discussed online, at conferences, in administrative offices, and at the reference desk. The heart of Library 2.0 is user-centred change. It is a model for library services that encourages constant and purposeful change, inviting user participation in the creation of both the physical and the virtual services they want, supported by consistently evaluating services.

All of the above-mentioned extensions to the existing information services and changes to the frameworks in which public services are provided by libraries, face a common problem — the previously mentioned lack of public funds. Therefore, it is necessary to be able to analyse the value of each service and determine their level of effectiveness.

4. Perceived value of information services

The general effort to ensure the maximum level of effectiveness creates pressure on the providers of public services to evaluate their performance. This pressure is compounded by savings in the public sector and thus comes from the donors — the state, regions and municipalities. This pressure is frequently associated with the requirement for most non-profit organizations providing collective goods to act as a commercial entity, which allows for a more comprehensive analysis of their performance. The aim of donors is to maximize the effectiveness or to get the maximum output for their money (Domberger & Jensen, 1997). In the USA during the period of new public management (the last quarter of the 20th century) a method was established called "value-for-money", which integrates these requirements and proposes solutions for an analysis of the performance of non-profit sector organizations (Nemec and Wright, 1997; Nisar, 2007).

The achievement of value for money (VFM) represents the optimal combination of cost and quality assurance meeting the needs of the