ELSEVIER

Evaluation and Program Planning 29 (2006) 209–216

EVALUATION and PROGRAM PLANNING

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Extent and type of worker utilization of an integrated information system in a human services agency

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Received 1 July 2005; received in revised form 1 January 2006; accepted 1 March 2006

Abstract

The study examines worker utilization of an integrated information system in a large social service agency, using an instrument that enables distinguishing between voluntary and mandatory use and between uses that serve administrative and clinical purposes. Findings among 136 social workers in a human service agency in Israel show: (1) workers are most inclined to enter data, less inclined to produce reports, and least inclined to apply the information system to planning, evaluation and follow-up; (2) they are significantly more prone to use the system for administrative or dual purposes than for clinical purposes alone; and (3) while the use of incentives increased utilization, it did not obtain total compliance and was considerably less effective in bolstering clinical than administrative use of the system.

Keywords: Computer use; Administrative purposes; Clinical purposes; Incentive; Human services

1. Introduction

As a result of the growing demand for accountability and quality assurance on the part of social service agencies, more and more such agencies have installed computer technologies for information processing. Many of the systems are Integrated Information Systems, designed to serve both administrative and clinical purposes (Mutschler & Hasenfeld, 1986; Wasko, 2001). These systems are viewed as a means of meeting the organization's many information needs, whether documentation, client monitoring, intervention planning, or others (Benbenishti, 1991a, b; Wasko, 2001). Evaluations of several systems have pointed to their potential benefits in enabling administrators and clinicians to work systematically and on the basis of methodically gathered knowledge (Savaya, 1998); in merging measurement processes into the operations of the agency and adding structure to the agency's program (Dobmeyer, Woodward, & Olson, 2002); and in decision making (Lyons, Doueck, Koster, Witzky, & Kelly, 1999).

Since the obvious condition for these benefits is that workers actually use the systems, there has been considerable study of worker utilization. Utilization has been assessed by a variety of measures: frequency of use (Culnan, 1983; Davis, Bagozzi, & Warshaw, 1992; Harrison & Rainer, 1996), time spent in use (Adams, Nelson, & Todd, 1992; Compeau & Higgins, 1995; Davis, 1993; Lawrence & Low, 1993; Moon & Young-Gul, 2001; Taylor & Todd, 1995); number of applications used (Thompson, Higgins, & Howell, 1991), and extent or level of sophistication of application usage (Al-Gahtani & King, 1999; Igbaria, Pavri, & Huff, 1989; Roberts & Henderson, 2000). Other studies have examined proxies of use: intentions to use (Agarwal & Prasad, 1999; Cwikel & Monnickendam, 1993; Davis, 1989; Koufaris, 2002; Venkatesh & Davis, 2000), user dependency on the IS for the execution of her tasks (Rai, Lang, & Welker, 2002), and satisfaction with the system (Barki & Huff, 1985; Lawrence & Low, 1993).

In recent years, however, there has been increasing understanding that such measures are inadequate. Doll and

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doi:10.1016/j.evalprogplan.2006.03.001

Torkzadeh (1998) point out that time and frequency measures tell little either about the amount of work done with the help of the IT or the extent of system usage. Moreover, the fact that in many organizations, usage is mandatory, with utilization rewarded and non-usage punished, means that workers may use the systems out of compliance and not to assist them in their work (Venkatesh & Davis, 2000). For both these reasons, we hear increased calls for measuring use in relation to organizationally and professionally relevant tasks (Doll & Torkzadeh, 1998; Hirschhorn & Farduhar, 1985; Igbaria, Livari, & Maragahh, 1995; Igbaria, Zinatelli, Cragg, & Cavaye, 1997; Melone, 1990).

In addition, there has been very little assessment of IT utilization in the social services. Most of the studies of the utilization of IT thus far have been carried out in the business sector or in academia. To be sure, there is a rather large body of literature that describes the development and implementation of the systems, including the problems encountered along the way and the balance of the potential benefits and limitations of computerized information systems in the social services (Benbenishti, 1991a, b; Dobmeyer et al., 2002; Lyons et al., 1999; McCullough, Farrell, & Longabaugh, 1986; Mutschler & Hasenfeld, 1986; Newkham & Bawcom, 1982; Raider & Moxley, 1990; Savaya, Spiro, Waysman, & Golan, 2004; Thompson, Tucker, & Zold-Kilbourn, 1998; Wasko, 2001). There is also a considerable body of literature that observes the under-utilization of, or worker resistance to, these systems in the social services and analyzes its causes (Binner, 1988; Lamb, 1990; Macarov, 1990; Monnickendam & Eaglstein, 1993).

Very few studies, however, actually measure how much social service workers use the IT at their disposal. Most of those that do tend to rely on rather simple percentages. Thus, Savaya and Spiro (1997) and Savaya (1998) asked social workers in a marital and family counseling clinic to report for what proportion of their clients they filled out particular information forms for use in an integrated information system. Savaya, Monnickendam, and Waysman (2000) calculated the proportion of cases in which social workers in a youth probation service made use of the computerized Decision Support System that was available to them in making their recommendations to the courts. In all these cases, utilization was measured uni-dimensionally, without examination to determine the task relevance of the utilization.

The present study examines worker utilization of an integrated information system in a large social service agency, using an instrument, designed for the study, which enables distinguishing between different levels of usage (data entry, production of reports, and specific work related tasks); between voluntary and mandatory use; and between uses that serve administrative and clinical purposes.

1.1. Descriptions of the agency

Israel's National Insurance Institute (NII) is the core instrument of the country's social security system. A corporation under the supervision of the Ministry of Labor and Social Affairs, it provides a large variety of social benefits and services both on a universal and on an entitlement basis, and serves as a major social net for many weaker population groups. Its benefits extend, among others, to the aged, disabled, and unemployed; to the widowed, women on maternity leave, and military reservists; and to low-income families. It is a decentralized body, with 20 main local branches and about 54 sub-branches throughout the country.

The Rehabilitation Department of the NII provides a variety of services, including employment placement, crisis intervention, professional diagnoses of rehabilitation capacity, preparation for entering or re-entering the labor market, assistance to improve personal functioning, referrals to welfare and community services, and economic assistance, to the disabled, to persons injured in work accidents or terror attacks, and to widows, orphans, and the frail elderly. Most of the employees in this department are social workers.

1.2. Description of the observed information system

In 1995, an integrated information system was installed in the NII Rehabilitation Department to be used by both by the social workers and the Department's administration and policy makers. For each of their clients, social workers were required to enter background data and problems, services and interventions provided, and outcomes. Some of the information was to be entered on a one-time basis (e.g. socio-demographics, date of referral, purpose of referral), other information periodically (e.g., services provided, payments, assessments of clients' status). The first column of Appendix A lists the input requirements.

The system enables the production of a variety of reports, as listed in the middle column of Appendix A, that present the data in a well-organized and comprehensible form. All the individual level reports listed can be aggregated to obtain information on any level, whether within the specific agency, a group of agencies, or the system as a whole. The idea was that the information thus organized can serve both administrators and clinicians: in such tasks as client follow-up, decision-making, intervention planning, service development, and so forth (Yagil, 1999).

The social workers could produce reports on their clients, both individually and in groups, for the purpose of monitoring their clients' progress, evaluating the effectiveness of their interventions, and planning further intervention, whether at the individual or group level. Their input could also be accessed and aggregated by the branch and national managements for purposes of monitoring, evaluation, and planning. For example, the aggregated reports on client changes can be combined with other aggregated reports (e.g. on client background features, diagnose, and/or interventions) to assess and compare intervention outcomes for different client populations, to identify effective and ineffective interven-