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Home Healthcare for the Aged and IT

Homecare and Information Technology

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Predictions that information technology would become a critical element in the elderly health and homecare setting of the future have proven to be true as healthcare systems grapple with the challenges of implementing and expanding IT-based services for an ageing population. There are great expectations about how IT can and will provide benefits in this area.

Among other consequences, IT holds forth the promise of enabling old-age people to live longer in their own homes, rather than to have to move into institutions. This may increase their health and quality of life, while enabling society to save scarce resources.

However, the relationship between IT and its economic effects on elderly health and homecare is not simple. Technological developments provide organisations with new opportunities in a broad sense, but may also put new demands on them. How the elderly health and homecare puzzle has to fit together to acquire the benefits of an enabling technology as IT, and at the same time avoid sources of inefficiencies, is a challenge for both private and public elderly health and homecare organisations.

Identifying Areas of Concern

Ó Knowledge Asymmetry

Elderly health and homecare organisations usually demand IT systems based on their current knowledge of the state-of-the-art of technology. If buyers and sellers of new IT have different knowledge about different pieces of relevant information at the time of the contract, the contract is incomplete and thus the resulting IT system can be unsatisfactory at least for one of the parties.

This imperfect or asymmetric sharing of information between the parties can be considered as one of the main sources of inefficiencies when buying new IT systems. Non-effective IT systems will inevitably affect an organisation's 'assets' and even the entire service production process – reflected in the price the organisation will pay for the final price of the new IT system.

Ó Work–Routines

Work routines arise in repetitive situations and store organisational experience in a form that allows the organisation to transfer that experience to new situations rapidly. When a new IT system is implemented, the final impact on service quality and the effect on the work routines cannot be predicted in advance with certainty.

In addition to this, the possibilities of predicting the consequences of the new IT system decrease with time, due to one of the most salient characteristics of the future; that we do not know it perfectly. As Henry Mintzberg says: "If we can anticipate the future, we should not plan it in detail." Meanwhile, prior experience in business is rarely (if ever) a sure guide about future performance in new or changed circumstances – something which new IT systems, on their part, often provoke.

If the new IT system is not sufficiently appropriate to organisational routines, the economic effects are more significant in this case than in other situations, because of the degree of irreversibility involved. Once a new IT system has been implemented, the clock cannot be turned back, and this entails a sunk cost for the concerned organisations.

Furthermore, since economic efficiency presupposes technological efficiency, economic growth depends upon the acquisition of an appropriate IT system that does not totally alter work routines or allows new work routines to be formatted efficiently.

Ó IT Competence

There are several mechanisms for acquiring IT competence within an organisation – for instance, by acquiring experience through participation in a process, or by buying competence.

A consequence of the implementation of a new IT system is that workers with appropriate IT abilities may be considered to replace the entire staff in an organisation.

However, this situation, at least in Sweden, would raise incalculable costs due to current work legislation. Additionally, to buy the 'correct' staff will involve advertising costs, costs for selection procedures, costs for checking references and costs for introducing the individuals into the specificities of the particular acquiring organisation.

The results can be similar to systems used in sports teams, such as football, where millions of dollars are spent on searching for new talent to lead them to victory, with the risk that investment in free individuals often does not win championships in a sport where teamwork is a *sine qua non*.

Due to the fact that implementation of new IT systems downgrade the economic value of existing IT competence, the prime task of an organisation will be to organise/reorganise a worker's IT knowledge. Normally, this could be achieved through suitable internal conditions that steadily upgrade the current workforce's competence base, making it stronger and better.

However, new IT knowledge cannot be communicated artificially; it is often embodied (tacit) in individuals or teams of people. Similar to a bank account, or to Volvo's bonds that yield income and other output over a long period of time, an increase in IT knowledge improves work activities and/or if the knowledge can be used over much of the individual's working lifetime adds to his/her "person's appreciation".

However, even knowledge capital has to be reinvested to avoid depreciation. For this reason, it is important to create conditions that allow individuals to acquire specific knowledge in IT systems for elderly health and homecare, because of the importance of technological competence on work-flexibility: "the longer a person has been educated the more adaptable she or he is to new and varying work-challenges".

Comments

IT's value is not primarily in simplifying communication and information provision, or reducing their cost. Rather, its contribution lies in enabling new ways of working, allowing the reengineering of processes, the integration of organisations and the changing of work routines.

These, however, often require organisations to reconsider several factors:

Ó Structures: Specifying how key actors and how work-practices will be impacted and changed by any new IT system

Ó Acquiring knowledge about the IT system: From the world of business, we know of many cases where new IT has been "sold" on the basis of exaggerated claims ("Your business will be dead if you're not on-line"). It is therefore often necessary to discuss the gradual changes over time – for example, organisational and procedural changes, as a new technology may at first need to coexist with older ones

Ó Institutional regulations and how actors will be impacted: The full potential of a new IT system sometimes takes years to realise, and require changes in institutions and regulations. The major types of impact include: the nature of work performed, financial consequences, responsibilities and risks and benefits experienced

Ó Governance: This issue concerns possibilities to remove obstacles for change, or increase the likelihood of successful implementation. Whether or not a new IT system is adopted may depend on rules, sharing of responsibilities and power at an inter-organisational level, informal and culturally determined traditions and habits as well.

From an economic point of view, disagreements and co-operation failures are costly and therefore should be minimised. Lots of promising effects have usually been suggested when testing IT-based applications in elderly health and homecare due to knowledge asymmetry, unavoided changes in workroutines and absence of IT-competence.

To make responsible decisions about the use of scarce resources of elderly health and homecare, it is necessary to identify sources of inefficiency before the implementation of any new IT system. In addition to this, there are usually no concrete benefits from the use of new IT-based applications in healthcare unless several actors adapt to one another, clarify regulations and define governance of the IT-system at an inter-organisational level – involving private firms, counties, municipalities, regulators, care professionals, as well as patients, and relatives, and of course, the elderly care centres and their inhabitants.

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