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INSTITUTIONAL PRESSURES FOR ADOPTING NEW COST ACCOUNTING SYSTEMS IN FINNISH HOSPITALS: TWO LONGITUDINAL CASE STUDIES

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INTRODUCTION

This study explores the motivation and rationale of cost and management accounting change in two Finnish university hospitals. More specifically, the management accounting change studied is the implementation and the adoption of activity-based costing systems, and how these systems, as well as the motivation to implement them, have changed over time. A new cost accounting system is implemented, i.e. an idea is conceived, a project is started and solutions are found. The initiative for the implementation may be intra-organisational or extra-organisational, and the motivation and rationale a combination of economic argumentation and institutional pressure. The actual benefits gained by the adoption of a new costing system will most probably be intangible and non-quantifiable in both industrial and non-profit settings. More properly, the benefits of adopting ABC are seen to relate to the belief systems of organisational actors. Therefore, it may not always be a fruitful approach to study the actual benefits of adopting ABC, but of the belief systems related to the benefits.

Speciality health care in Finland is tax-financed. Hospitals are organised in hospital districts, owned by municipalities. A public university hospital finances its operations through patient fees, state subsidies for education and research, and the *per-case* reimbursement from the municipalities referring the patient (see Figure 1). The municipalities purchase speciality health care through the managed care mechanism, which is also intended to align the municipal speciality health care spending budgets to the hospital district budgets, so as to synchronise the demand and production of speciality health care services. This does not mean that the sum of the health care spending in municipal budgets equals the hospital district's sales budgets, since municipalities may purchase

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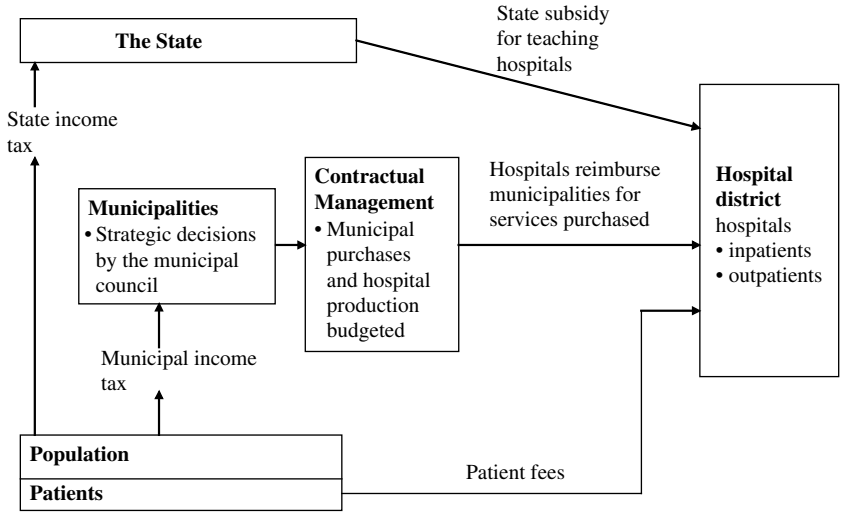
Figure 1

Overview of the Public Hospital District Financing System



care services from other hospital districts, and the hospital district may sell its services to other municipalities than the members of the hospital district (see e.g. Korkala, 1995; Pasanen, 1999; and Pekurinen et al., 1999; on the Finnish managed care system). However, what the managed care mechanism does mean is that the municipalities purchase the vast majority of their speciality health care services from the hospital district, and these services are defined as per-case 'products' which are priced, supposedly at full cost since the hospital district is not supposed to generate profit.

According to the founding contracts of the joint municipal organisations (hospital districts), which are derived from the Municipal Act, a public hospital should not produce (accruals-based) profit or loss. Theoretically, this means that hospital services should be priced at full cost. In a budgetary sense, the revenues and the expenses of profit centres should be equal, which in practice may allow for cross-subsidisation within a profit centre.

In public hospitals, the cost-based prices are an essential element of managed care – a provider-purchaser system of financing the hospital districts by purchasing the hospital outputs. Studies conducted in the United States, however, indicate that the link between changes in revenue reimbursing schemes and the introduction of new costing systems has been tenuous (Hill, 2000).

THEORETICAL FRAMEWORK

The findings of the two case studies will be interpreted by using (new) institutional theory. New institutional theory refers to the study of organisational accounting practises through institutional theory and its economic and sociological variants. According to Scott (1995, p. 33):

> Institutions consist of cognitive, normative and regulative structures and activities that provide stability and meaning to social behaviour.

Organisations which operate in similar environments are said to experience comparable demands regarding what is generally regarded as acceptable behaviour – and consequently, will have similar structures and processes (DiMaggio and Powell, 1991). An organisation that conforms to societal rules obtains external legitimacy and increases its chances of survival, irrespective of whether the new rules make the organisation more effective (Carpenter and Feroz, 2001, pp.569). It is safe to assume that organisations conform to institutional environments because this secures them better resources. In addition, Meyer and Rowan (1977) and Scott (1987) argue that organisations conform to external institutional pressures because they form a set of beliefs that are taken as constituting reality. Institutional theory demonstrates how non-choice behaviours can occur and persist, through the exercise of habit, convention, convenience, or social obligation (Oliver, 1991 pp. 151).

Thus, being efficient is not the only way that organisations can survive. Legitimacy in the external environment, that is, from the state, government, parent companies and external bodies, is another means of ensuring survival (Carruthers, 1995). Such congruence in organisation structures and processes, grounded in environmental pressures is said to have emerged through a process of *isomorphism*.

Institutional isomorphism is based on the idea that environments are collective and interconnected, and that, in order to survive, organisations must be responsive to external demands and expectations (see e.g. DiMaggio and Powell, 1983; and Oliver, 1991). The constituents that exert these institutional pressures are bodies such as central and local government, professional bodies and public opinion. DiMaggio and Powell (1991, pp. 66) identify three mechanisms through which institutional isomorphic change occurs, each with its own antecedents; *coercive* (response to external pressure), *mimetic* (organisations modelling themselves on other organizations), and *normative* isomorphism (arising when professionals operating in organisations are subject to pressures to conform to a set of norms and rules developed by occupational/professional groups).

Accounting changes in hospitals have been studied from an institutional perspective as reforms originating from outside the health care sector, and the health care sector and hospitals reacting to the outside pressures. Arnaboldi and Lapsely (2003 and 2004) see the adoption of ABC as a legitimating exercise, as organisations seek to portray themselves as modern. Modell (2001) addresses the

issue of the institutional aspects of diagnosis-related groups. He sees the adoption of new output measures as institutional pressure, and uses Oliver's hypothesis to predict responses to the adoption of the new reimbursement schemes. Brignall and Modell (2000) predict that as institutional pressures increase to adopt private sector management techniques in the public sector, de-coupling of performance measures and actual activity is likely to take place. The concept of decoupling resembles what Meyer and Rowan (1977) call *sagacious conformity*, in which new technologies and techniques appear to be in use, but may not be acted upon. Much of the activity-based costing research shares these views, e.g. Armstrong (2002) and Jones and Dugdale (2002) describe the adoption of ABC by institutions (private or public sector) as mimicry as an attempt to portray themselves as 'modern corporations'.

One key argument of the New Public Management literature is that organisations where accounting was virtually absent have adopted new accounting practices and are increasingly using accounting concepts in decision-making. The general finding is that clinicians are reluctant to adopt, or resist, accounting information (Preston et al., 1992; Jones and Dewing, 1997; Lapsley, 2001; and Arnaboldi and Lapsley, 2004). Kurunmäki (1999a and 1999b) studied the acceptance of accounting practices in health care, and the professional organisation of accounting in Finland, where much of managerial accounting and pricing–related tasks are carried out by health care personnel. This may have the effect of physicians and nurses having to compromise between professional ethics and financial concerns (Comerford and Abernathy, 1999). *Comparative* studies include Fitzgerald and Dufour (1997), who compare management practices between Canadian and UK hospitals, and Kurunmäki et al. (2003), who study the use of accounting information by health care professionals.

RESEARCH METHOD

The research problem is to explain the motivations and rationales of the case hospitals for adopting new cost accounting systems, specifically ABC systems, and the changes in those motivations and rationalisations over time in the longitudinal case studies. For the purposes of this study, these motivations are classified as relating to economic rationale and institutional pressure. A central point of interest is the *interaction* between the economic and social rationale for adopting activity-based costing. Both the economic rational and institutional motivations are in effect simultaneous, and the three longitudinal case studies will reflect the different interactions of these motivations.

Concerning responses to institutional pressure for change, Oliver (1991) predicts expected reactions as pertaining to economic and/or social fitness. Institutional theory views hold that organisations may adopt costing systems because of institutional benefits, i.e. the benefits gained through political reasons concerning legitimacy and power (Carruthers, 1995). For instance, the diagnosis-related

groups (DRG) system may have been developed and enacted in the US mainly because of government pressure. Similarly, many organisations have jumped on the ABC bandwagon to gain benefits by appearing 'modern' and 'cost-conscious' (Covaleski et al., 1993; and Arnaboldi and Lapsley, 1993 and 1994; see also Armstrong, 2002; and Jones and Dugdale, 2002; for activity-based costing in general).

The empirical material consists of two separate case studies, in which the data sources differ somewhat. In the first case, the main source of material is archival. It includes project plans, project documents, cost accounting models and their descriptions, pricing information and e-mail exchanges mostly concerning the dates and minutes of the project meetings. By using these, the structure of the system is plotted as it evolved in the course of years, which is used to illustrate the implementation process. Although originally based on personal observation, it may be appropriate to label Case Oulu University Hospital as a retrospective and archival case study. All the data were gathered by researcher involvement in the projects. In the first case study the project documents range from September 29, 1996 and January 25, 2002, covering a time span longer than five years. For the second case study, a bound research diary exists and the data is also longitudinal, ranging from September 26, 1999 to May 24, 2001, covering roughly one and a half years.

Since the research question concerns motivations for implementation, using the field notes and archival documents originating from the time the cost accounting models were being constructed is justified – the method of data collection enables the study of *ex-ante* motivations using data collected at the time the motivations were discussed, argued for and justified by the organizational actors, instead of relying on ex-post interviews that leave room for legitimating existing facts. Answering the research question calls for an in-depth investigation into the motivations, beliefs and experienced external pressures of cost system advocates – a situation which merits an in-depth field analysis (Ahrens and Dent, 1998).

These two case studies will be interpretative, with the emphasis of field research providing a process of theoretization (Ahrens-Dent, 1998). Theoretization concerns the relationship between theory and data. It is a process of perceiving patterns, where the researcher examines and re-examines existing data, and gathers more field material in order to ensure that the patterns adequately represent the observed world (Miles-Huberman, 1994). Therefore, it is important to keep data and theory separate, likewise data and their interpretation. As the researcher withdraws from the case organisation and the results are reviewed, new problems often emerge, and the data analysis process is recycled (Gill-Johnson, 1997).

Regarding case selection, since the theoretical framework and the research question involve exploration of hypothesised benefits of ABC implementation across Finnish hospitals, more than one case was needed. The two case hospitals (university hospitals) are similar in size, and are 'full service university hospitals'

with nearly identical functions. This very similar nature makes them an interesting pair, given that their approaches to introducing cost accounting systems have been very different indeed.

Of course, in any case study, a very important issue in data acquisition is accessibility. Accessing the data in the first case study would not have been possible without the consultative role of the present author. The role did not, however, remain unchanged during the entire course of data collection. There, as time passed, present author's role changed from a consultative role to that of academic researcher. Gummesson (2000) uses the 'iceberg metaphor' originally by Paulsson Frenckner, to describe the issue of accessibility in qualitative research. The metaphor refers to creating an interactive relationship with the case organisation instead of merely getting access to the data that is available through questionnaires and personal interviews (i.e. the tip of the iceberg).

CASE STUDIES

Two case studies follow. The first, Oulu University Hospital, is a longitudinal case study in which the costing system development takes place in several stages. First, activity-based costing is experimented with by fairly independent clinics without much support from the hospital district management. It is the work of interested individuals who have picked up the idea of using activity-based costing to set prices for the health care outputs, which are invoiced from the municipalities on a per-case basis. As time progresses, the hospital district management picks up on this process, purchases accounting software and purchases consulting services from local software companies. A common activity model is defined, and pilot projects are started. Very soon, however, the enthusiasm fades and the profit centres and clinics are left to develop their own accounting systems with the tools provided by the hospital district administration. The various clinics and profit centres of the university hospital use their activity-based costing systems to achieve different objectives. The case study shows that while the hospital district management sees ABC as a tool for improving efficiency and accountability, the surgical clinic used the system for full cost pricing, but also to bring more accountability to surgical specialities (such as orthopaedics).

In the second case study, Tampere University Hospital, the activity-based costing system is initiated because of outside pressure from the financiers (municipalities), auditors and the media. A rather short but intensive cost accounting project follows, but the results are not, with a few exceptions, not taken into use. In the end, hospital pricing proves quite inflexible. However, the hospital is able to claim that it uses modern, state-of-the-art cost accounting systems to calculate the costs of its outputs, and this may be a satisfactory result in itself.

Case 1. Oulu University Hospital

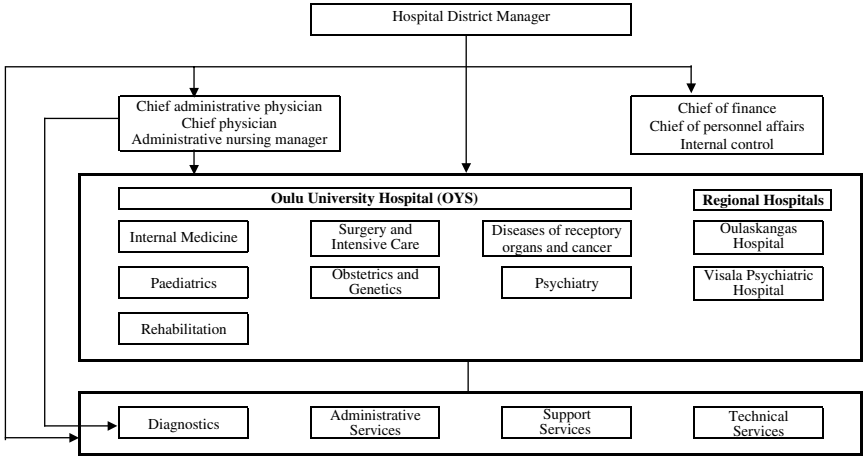
Northern Ostrobothia Hospital District (PPSHP) is the northernmost of the five University Hospital Districts in Finland. The hospital district is in charge of organizing specialised medical services in its own district. The most advanced specialised medical treatment is provided by the Oulu University Hospital, which has its own geographical remit.

Approximately 375, 000 people live within the Northern Ostrobothia Hospital District and more than 700, 000 within the special health care region. There are three hospitals in the joint municipality hospital district: Oulu University Hospital, Oulaskangas Hospital and Visala Hospital. In addition to the administration centre there are 13 accountable profit centres in the hospital district. The joint municipality hospital district organises services for each hospital in accounting, personnel, data processing, maintenance and technical services. Organisation structure of the hospital district is presented in Figure 2. Examinations and treatments are increasing in outpatient clinics. About 5, 300 high skilled professionals work in the clinics and support services in the hospital. Practically all medical specialities are represented at the university hospital.

The Oulu University Hospital, is by Finnish standards fairly big (the hospital district, to which the case hospital contributed a major share, had in 1996 a turnover of c.1.2 billion FIM (202 million euros) and some 4,500 employees, and by 2000 had grown to an organisation of 5,100 employees). During the 1980s, dissatisfaction with the internal allocation and profit centre system stirred, often with the common view that the cost-effectiveness of that accounting system was

Figure 2

Organisation Structure at the Profit Centre Level in 2001



Source: Northern Ostrobothia Hospital District.

inadequate. This spirit was evident in the early items of the research data, especially the activity-based costing workshop of January 14, 1997, and the hospital district internal newsletter of January 1997. Meanwhile, requirements for pricing were mounting up in the profit centres and individual clinics, which had become more responsible for their own budgets. This eventually led to shifting the responsibility for pricing from the hospital administration to the profit centres and clinics, which also resulted in having the responsibility of costing calculations shifted from central administration to the profit centres.

Development of Cost Accounting

The costing projects which the hospital embarked upon after the mid-1990s took place in several stages. The first stage of activity-based costing implementation was a bottom-up initiative (1992–1995), with several hospital clinics independently experimenting with new costing systems. Costing system development had been going on in the hospital district as small independent projects (with respect to central authority) since 1992. At that time, the radiology clinic became interested in costing system development, mainly because of the recent attention received by the breakthrough of activity-based costing systems.[1]

The second stage of costing system development was the attempt in 1996 by the hospital district central administration to gain control of cost accounting by setting common standards and a framework for costing. At that time, the concept of activity-based costing had been 'sold' to hospital management by consultants. What resulted was the framework project, which started out in autumn 1996 with the aim of providing a co-ordinated framework for costing practices. The emphasis was on attempting to harmonise the various aims of different organisational levels so that there would be 'something for everyone'. There had already been some experiences of conflicting aims, such as whether the costing systems should emphasise pricing or activity control. Furthermore, it was felt that there existed a great variation in processes in the various profit centres, which aroused suspicion if one type of costing system would suit them all. Obviously, the framework would indeed have to be broad, but still provide the information necessary for decision-making at the hospital district level. There were also needs for computer integration of various accounting and information systems.

The issue of conflicting aims was in part resolved by forming different levels of aggregation. The top management would basically use the highest aggregate level, while profit centre and clinic managers, who were usually physicians, could drill down deeper into a more disaggregate level of financial information. Testing of the macro activities and the cost pool structure was carried out in three profit centres, the otolaryngology (ear-nose-throat) and urology clinics and the maintenance technology support unit.

The third stage of activity-based costing implementation was the initiation by central management of three pilot projects in 1997, in which the design of the cost management system ideas were tested in practice. During this time, models

were built in the otology and urology clinics (now located under diseases of the receptory organs and surgery and intensive care), according to the standards set by the hospital district management. Meanwhile, two independent models in internal medicine and medical supply services were also constructed.

The fourth stage in ABC development occurred in 1998, when the responsibility for activity-based costing implementation was decentralised. During the re-decentralisation of the management accounting function the responsibility for cost management was transferred to profit centres, with recommendations to use certain methods and a specified framework. Costing models were developed that covered almost the entire surgical speciality, likewise radiology. The re-decentralisation offered new opportunities for cost accounting development, especially the development of computerised information systems, data transfer, and software integration.

Finally, the fifth stage of activity-based costing development included integratedaccounting systems with links to other information systems. These cost accounting models were intended for expansion so as to cover entire profit centres. (See Table 1.)

Table 1

Stages of Cost Accounting Development and Constructed Models

Stage of ABC Development	*Years*	*Cost Accounting Models Constructed in:*	*Located in Profit Centre*
1. Independent models	1995–1996	Radiolology	Diagnostics
		Oulaskangas regional hospital	Oulaskangas regional hospital
		Opthalmology	Diseases of receptory organs
		Paediatric ward	Paediatrics
		Physiatrics	Rehabilitation
		Food supply services	Support services
		Obstetric ward	Obstetrics and genetics
2. Standard-setting	1996	Hospital district activity hierarchy	–
3. Pilot standardised models	1997	Urology	Surgery and intensive care
		Otolaryngology (ear-nose-throat)	Diseases of receptory organs
		Technical services	Technical services
4. Decentralisation	1998–1999	Elective cardiac surgery process model	Surgery and intensive care
		Neurological ward	Paediatrics
5. Integration	2000-	Integrated dentisty	Diseases of receptory organs
	2000-	Surgical specialities	Surgery and intensive care

The reasons for this rather surprising development i.e. that the shift of responsibility for cost accounting from the upper management to mid-level management triggered the renewal of the accounting information systems related to the need to argue for the operational usefulness of cost accounting practices in order to gain acceptance for them. First, the profit centre had perhaps greater freedom to implement its own ideas than the central administration, since in the wake of health sector budget cuts it had become politically almost impossible to establish new posts in the hospital administration. A quick analysis of the archival documents indicates that most of the practical work was carried out by external consultants, aided by health care professionals who were not in any way excused from their daily duties for the sake of the cost accounting project, but instead, were supposed to carry out the new tasks when they had the time. It is easy to assume that in these circumstances the cost accounting project may not have been very popular.

In addition, this happened at a time when most clinic budgets were being cut, which may have led to various organisational players drawing the conclusion that activity-based costing had something in common with the budget cuts. In fact, this view was not discouraged, as evidenced by many project documents (e.g. guidelines for ABC future in January 1997, the follow-up of the ABC project group and the data on the ABC workshop) – clearly one justification for ABC implementation was increasing cost awareness, which would supposedly lead to the conserving of resources.

Second, the integration required that financial data be connected with medical data, the latter often being so complex and specialised that it required initiative and support from the medical practitioners to achieve this. Also, when accounting information was connected with information concerning treatments, health status etc. it lost its bureaucratic character and became an accepted function within the organisation.

Motivations for Costing System Development

Efficiency and accountability at the hospital district level

In the initial phase of activity-based costing, spontaneous cost accounting projects were implemented and reported to the hospital central administration. The cost accounting models constructed in this phase are included in the archival data, accessible by a commercial activity-based costing software solution. The document 'Activity-based costing in the hospital district' (January 15, 1997), prepared by the Director of Marketing and External Relations stated that the first priority of the new cost accounting should be 'an aid to the profit centre's internal cost accounting, and a tool for promoting cost awareness'. The document also stated that the decision to acquire software tools and consultancy had been taken by the hospital district Director in June 1996.

The overall tone in the first documents of the case material can be considered as being optimistic, and ABC is seen as a potential solution to problems dealing with cost awareness, rising costs and general inefficiencies. For instance, the hospital district internal newsletter generally viewed the cost accounting projects in a very optimistic light. Some examples follow: according to an interview with a chief physician:

> It is feasible to implement, it is useful and it provides us with cost information that is on a totally different level compared to our existing pricing system.

Concerning responsibility for the costs, the Chief of Finance issued a statement:

> traditionally, health care professionals have been responsible for quality in treatment, and the financial matters have been left to the administration. Activity-based costing will bring more financial accountability to the profit centres.

Concerning efficiency, the Chief of Administration of a regional hospital commented that:

> if our goal is, as it should be, the reduction of costs, now we have accurate information on what resources are spent in particular care processes, and what those resources cost. The health care professionals can then analyse how can they influence the costs of the treatmen processes, and what part of the process can be made more efficient.

The same positive overall theme continued in the hospital district activity-based costing workshops. For instance, according to the notes of January 14, the hospital district Director stressed the 'needs of the consolidated group', by which he meant the hospital district. In 1997 the case material includes reported evidence on the problems of cost accounting model creation. These documents, while giving a view of the process by which the cost accounting models were created, also highlight some of the problems inherent in these models. For instance, in January 1997 the centralised system of activity definition came under pressure, as the project group took liberties in adjusting it to the local needs. The debate apparently continued in May, as the project group seemed to be somewhat uncertain as to what the appropriate level of aggregation in the model should be, and if it would be possible to produce labour hour measurements for the activities defined. Concerning integration, on May 24 the project group stated that the existing information systems did not support cost accounting.

In 1997 the overall tone in the documents included in the data had become less enthusiastic. The cost accounting models had been created. These reports seem to focus on the problems encountered, and on future development needs should the cost accounting development continue. For instance, profit centre managers commented on the increasing workload and excessive detail. Furthermore, the two documents state that integration into other systems did not work well, and it was difficult to get the right kind of information from the financial accounting system. The costing models contained many assumptions,

to which the results were sensitive. In September 1997, the hospital management raised the concern that the models did not really produce comparable results, and proposed that efforts should concentrate on three areas: more extensive product pricing calculations, better workload measurements and getting non-volume cost drivers from the hospital information systems.

In 1998, the work concentrated on the expansion of the cost accounting systems and integrating them to other information systems. The cardiac surgery ABC model was developed, and after that expanded to the surgical specialities cost model. On neurological ward, elimination of cross-departmental subsidisation was the central theme, while in the integrated dentistry cost model, the central theme was to avoid cross-subsidisation between the hospital district and the city of Oulu, which had integrated their dental care functions. The data does not, however, indicate that the hospital saw increased accountability, cost awareness, or cost savings. Instead, the situation resembled what Mouritsen (1994) described as organisations paying more attention to what they appear to do than to the actions themselves. To talk about these things was enough in itself to engender a feeling of organizational rationality. Thus, the adoption of activity-based costing also required the adoption of a cost-savings oriented vocabulary structure (Meyer and Rowan, 1977, pp. 349).

Full cost pricing

The surgical specialities cost model was a fifth-stage project initiated in May, 2000 by the chief surgeon to produce a profit and loss statement for the surgical specialities. According to the chief surgeon, the aim was to produce an accounting report that would support the management of surgical specialities – management was becoming more speciality-oriented and there was a need to move away from the responsibility area structure. The days were gone when there were general surgeons – nowadays every surgeon had to specialise. There were already surgical specialities so broad, such as orthopaedics, in which a surgeon had to specialise within the speciality, and the wards were likewise becoming more specialised, although some were mixed.

In 2000 there was actually discussion on whether the specialities would ever replace the responsibility accounting structure. This discussion took place in the meeting where the responsibility centre structure reform was planned. Since no such actions took place, apparently no decision was taken to mix the concepts of surgical speciality and responsibility centre – each had its functions. Regarding the independent responsibility areas, it was deemed too early to merge them (and end the interdepartmental allocations inside the profit centre), but even then, additional cost and profit information based on surgical specialities was needed. However, the chief surgeon expressed one of the aims of the speciality profit and loss statement as an issue of responsibility accounting in his address to the clinic staff on February 24, 2000:

> In the future, when you come asking me whether we, the management, have money for this and that investment, I will reply with a question, whether you, the speciality, can afford it.

Thus, the cost allocation to surgical specialities would be performed on the basis of the surgical speciality activity-based costing model. This sub-case demonstrates the importance of the external controlling environment (Meyer and Rowan, 1977) in the form of full cost pricing. While the prices for the per-case 'products' were supposed to be set at full cost, no one had really stated how this should be done. Activity-based costing seemed to offer a solution which could be used to satisfy the demands of financiers.

Case 2. Tampere University Hospital

Pirkanmaa Hospital District is an organisation owned by 35 surrounding municipalities, which purchase the vast majority of its services. The district provides a population of more than 1,000,000 inhabitants with speciality health care. The hospital district consists of the Tampere University Hospital, and several smaller regional hospitals. In the organisation chart, the regional hospitals are profit centres just as there are profit centres inside the Tampere University Hospital, the main difference being that the regional hospitals cover a wider range of medical specialities than the university hospital profit centres, which usually cover just one speciality. In 2001, the hospital district had 1,713 beds, more than 4,700 employees and an annual budget of c. 380 million euros.

Institutional Pressures

On September 26, 1999, the citizens of the surrounding area, as well as the staff of Tampere University Hospital, could open their Sunday morning newspaper and read the main headlines, which stated that the hospital district and the Tampere University Hospital had failed to set the prices of outputs correctly, that the budget had been spent, and that the hospital costing system was obsolete and unable to provide information to remedy this situation in any way. Roughly translated, the rather aggressive-sounding headlines would read 'White-coats flunk finance class' and 'Ill, more ill … University Hospital'. In the course of the past few years it had not been uncommon for the hospital staff to leak various stories to newspapers, or even to discuss personnel problems and the effects of budget cuts on national television. The newspaper articles, too, were based on interviews with the representatives of hospital management, some named, some remaining anonymous. This press coverage continued in the course of the activity-based costing project; on October 24, 2001, the local daily morning newspaper published a headline according to which 'Health services in our city should be entirely restructured'. The actions of hospital administrators were claimed to be 'inefficient and indifferent'.

Behind these reports were a series of discussions inside the hospital district, where the newly-implemented managed care system, and its implications for financial management had been reviewed. The content of these internal reviews soon became public knowledge. Public interest in the issue was further increased by the fact that the municipalities -specially the city in which the university hospital was situated- were predicted to show speciality health care spending a great deal higher than the original budget, so the media started to look for the parties responsible – either municipal administration and politicians, who had underestimated the need for health care, or the hospital district, which was spending much more money than it had originally estimated. The media soon saw fit to claim that the latter was the case – hospitals were spending too much money. Such publicity for a hospital internal development discussion also illustrates the public nature of health care services, that indeed hospital cost accounting systems were not seen as an internal issue, but as an issue which is in the interests of society as a whole. And since the managed care system links hospital and the entire hospital district budgets to the municipal budgets, the hospital district budget was certainly not seen as a management issue, or a part of managerial accounting system, but as an issue of municipal policy.

Later in 1999, an internal memorandum from the auditors mentioned that the hospital district clearly had a need to improve its cost accounting and pricing systems, and the auditing memo dated April 4, 2000, included a similar statement (hospital district internal announcement concerning the annual accounts for the year 1999) The official, public auditors report for the year stated that 'management control in the joint municipal organisation is not entirely satisfactory'. Generally, an irregular comment in the auditing statement is considered quite rare in Finland. Therefore, issuing such an auditing statement put considerable pressure on the hospital district administration and accountants.

The purpose of this is to demonstrate the force of the external pressure put on the hospital district administration. Some of the pressure built up through the managed care system, with its sanctions on exceeding the budget. Much of the pressure came from the local politicians, who are also represented on the hospital board of directors, and who are sensitive to public opinion formed through the media. And, finally, there may have existed a bandwagon-type of external pressure voiced through the auditors and supported by hospital management, that everyone else is developing new costing systems, and that supposedly superior activity-based costing techniques should replace the old, 'traditional' costing techniques.

The objective to price hospital outputs on a full-cost basis was included in the strategic plan of the Pirkanmaa Hospital District, and it is also based on the legislation. This pricing was to be carried out by using a uniform cost accounting system. The full cost basis was also included in the municipal contracts constituting the managed care system. In the contracts it was stated that there should be transparency in costing practices, and that the cost accounting principles as

well as the full cost calculations should be made available to the purchaser, i.e. the municipalities.

According to the Director of Financial Control, these requirements imposed on the hospital costing and pricing system were quite demanding. Traditionally, it had been difficult to set prices at full cost due to the fluctuations in demand and the changes in capacity consumption which followed. A majority of hospital costs were seen as fixed in the short run. The under- or overrecovery of overheads was seen to be problematic under managed care, as the predetermined overhead rates were set at the beginning of the contract period, after which changes in volume would still occur.

Activity-based costing was not a totally new idea in the hospital district; there was a history of several pilot implementations and doctoral dissertations on the (activity-based) costs of various treatments. In addition, an activity-based costing model was fully operational in the radiology department, which had also purchased commercial activity-based costing software. There had been some ABC experiments in the otolaryngology (ear-nose-throat) clinic and the laboratory services. Interestingly enough, these earlier, physician-initiated cost studies would have almost no influence on the new, accountant-run ABC project whatsoever. One physician did participate in the discussion concerning the project goals but otherwise this new project was to be run by the administrative and accounting personnel. This way, the case findings somewhat contradict the studies by Kurunmäki (1999a) and Kurunmäki et al. (2003) as here we have evidence of an accountant-run project where physicians' involvement was discouraged.

Project Decision

The activity-based costing project group was formed in August 2000. The project organisation had two levels: the coordination group and the project working group. The coordination group consisted of top management – members of the three personnel groups i.e. the physicians, the nurses and the administration were represented, and was chaired by the manager of the hospital district. In addition, representatives from the surrounding municipalities were also included, likewise the present author and two other academic researchers. The municipality representatives were needed to gain acceptance from the municipal decision-makers, and to exchange information.

According to one of the researchers involved, their role was to provide legitimacy for the project, so there would be few questions about the various decisions made and design options selected. In other words, the aims of the project could also be described through the development of the costing system, which would provide legitimate, reasonable-sounding cost based prices for prospective pricing and reimbursement purposes. Officially, the broad purpose of the costing project was declared to be:

> increasing the cost awareness in order to implement the strategic plan and specifically: to create a uniform activity-based costing model that forms a basis for service pricing. The model will specify the basis according to which costs are allocated to cost centres, activities, products, and possibly some other cost objects. Cost accounting according to the specified model will be implemented throughout all specialities.

Despite the somewhat ambitious objectives, funding for the costing project was scarce. Originally, the Director of Financial Control had intended to employ a project worker for the costing project. As the beginning of the actual project was postponed, the project worker left and was no longer available. Due to lack of funds, no extra project worker was employed, and the cost calculations were to be made by the clinic accountants.[2]

The project group was formed, and included the Director of Financial Control and the clinic accountants. About twice a month the project group gathered to hear the opinions of its outside members: the present author, the chief administrative surgeon, or other personnel who were thought to have experience of cost accounting. The university hospital personnel included a physician whose doctorate (in medicine) concerned hospital costing practices, and also a nurse whose licentiate (in health care administration) concerned the benefits of activity-based costing for nursing practices in the emergency room. The research diary and notes included in the data originate from these larger project group meetings held in the winter of 2000–2001.

Project Outcomes

The tight project schedule and timetable started to cause trouble in January 2001, as the accountants were involved in closing the books and preparing the balances for the financial statement for 2000. The project staff felt overburdened by the workload. The accountants complained about the quality of the direct labour hours estimates, and the difficulties of getting good answers from the physicians. Something reminiscent of direct resistance and refusal had also been encountered. The project group discussed the possibility of having the administrative chief physician issue an explicit order to fill in the labour hours estimates. On the other hand, some clinical managers had been enthusiastic about getting the first results on the new product costs. According to one of the accountants:

> the chief physician looked as excited as a little girl expecting Christmas presents when we were about to show the preliminary product costs (February 12, 2001).

At the turn of the year, the regional hospitals had also encountered resource problems. In February 2001, the chief of administration for a regional hospital commented:

> we at the regional hospital have a problem in accomplishing this. We are doing the calculation throughout the entire hospital – a big workload. Our problem is a resource problem, not an attitude problem.

In the entire course of the project, criticism was encountered due to the 'lack of clinical and care perspective in cost accounting'. This criticism was even admitted in the official project report, although the report written by the accountants stated that:

> the criticism did not indicate how the medical/care aspect should have been included in the accounting.

All in all, the activity-based full costs did differ significantly from many of the prices on the hospital district price list. Generally the activity-based unit costs of outpatients seemed to exceed the price list prices. The same was true for many of the very expensive treatments, major surgery, cancer treatments etc. All of these were low-volume products, although the number of outpatients had been increasing for several years. The first reaction was rejection and severe criticism. One explanation, which was originally suspected and later confirmed, was that the products i.e. the treatment packages were not always too well defined for pricing purposes. This was especially the case if the product classification was such that the patient days had to be classified into categories of different resource consumption (and prices). If bed-days classified into different groups were used as a basis of product classification, then one product could involve different treatments of a heterogeneous group of patients. This, too, may be characterised as an example of a situation where disaggregation may involve difficulties in measurement, and reliable results would be as likely obtained by increasing the level of aggregation in the costing system.

The profit centre/clinical personnel complained that they often found it impossible to allocate the cost of expensive medication, supplies or examinations to the products. The accountants used this criticism as an argument for DRG's: it would be easier to allocate direct materials and services to DRG-based products. Another major accounting-related criticism arising from the profit centres was that the allocation of time spent on activities was considered to be a lot of work, or else, too rough to be relied upon. This one point of criticism may have been enough to cast a shadow of doubt over the majority of the results.

A main concern seemed to be that the changing prices would be reflected in demand in the areas where the health care sector did not have monopoly power. This would probably be the case in outpatients, whose activity-based cost deviated most from the existing prices, and where competition was sometimes severe. In the official project report, fears were expressed that the municipalities might purchase the services from the private sector, or increase their own production. If the demand fell, the outpatient units would have to resort to lay-offs, or other units would have to subsidise them by increasing their own prices.

In the light of the results from the activity-based costing project, on April 23, 2001, the Director of Financial Control proposed to the hospital board that the following steps should be taken:

1. All calculations were to be checked by each speciality by the end of the year 2001.
2. A project was to be started in the autumn of 2001 with the aim of defining hospital outputs as product packages. The project group would then make recommendations on the new product definitions by the end of 2003. If possible, the new products would be priced using the activity-based information.
3. The activity-based costing model was to be updated on a yearly basis using the financial statement information. It would be predominantly a historical costing model. Pricing would then be carried out on a historical cost basis, making adjustments for estimated cost increases. Technically, the costing exercise will continue to be a spreadsheet application.

Officially, the project was declared complete on 24 May, 2001, and this was marked by a lunch party. Afterwards, the accountants were asked whether the result of the project – only minor changes in pricing was a surprise to them. The two accountants answered that this was no surprise, that this was a project which would set guidelines for future work – but they expected no great results yet.

DISCUSSION

Institutional theorists such as Oliver (1991) claim that growing market competition invariably weakens the institutional influence on organisational action. The managed care system through which the university hospitals in the first two case studies are financed may be viewed as a quasi-market system, and as increasing market pressure. Despite the resemblance that the managed care may bear to market structure, public sector hospitals are influenced by institutional forces originating from the legislation and other institutional factors. It is likely that the managed care systems and the development of health care quasi-markets, where products are sold at full cost prices, will also drive activity-based costing systems in the future. For instance, pressure for the adoption of DRG-based output measures will certainly support patient-based full costing, as DRG-prices will have been determined. But the development will not benefit from activity analysis as such, but more so from cost driver analysis. As the quasi-markets, managed care systems, contract-based budgeting systems, hospital output measures and reimbursement schemes advance, we shall expect to see more costing system implementations in the future.

Now, however, ABC has come to be advocated for organisations such as Finnish hospitals, which are experiencing quite different kinds of change – rising expenses and dwindling public funds, the marketisation pressure, contractual management/managed care systems, contract-based budgets and the legislative demands to show close-to-zero accruals-based profit.

Much of the foregoing is in line with the economics-based argumentation of ABC adoption in the Oulu University Hospital. The themes emerging from the different activity-based costing projects concerned the execution of full cost pricing, cost allocation and cross-subsidisation. However, the variations in the structure of the costing systems show that the problems in ensuring economic efficiency, e.g. full cost pricing, cross-subsidisation and allocation of common resources have been dealt with by different methods and solutions. All in all, effective full cost pricing was seen as the main rationale behind ABC adoption. This reflects a belief that full cost pricing is beneficial, and ensures economic efficiency. This belief is economics-inspired, and holds the normative assumption that prices of outputs produced should equal costs. However, the notion of increased economic efficiency through implementing cost accounting systems seems to be based on faith, and not supported by clear facts. The quest for full cost pricing did not seem to be directly due to institutional pressures such as the municipalities or the legislation, although indirectly, the entire ABC phenomenon could be seen as an institutional force. In a more straightforward sense, the hospital administration and the clinical managers initiated ABC projects for the sake of accurate full cost pricing, which they believed was one key to economic efficiency. As such, the key players in the evolution of activity-based costing behaved according to the core assumptions of economic theory; that utility maximisation is the foundation which drives human behaviour, and that products are sold on markets where long-term marginal costs equal prices.

In the Tampere University Hospital case, both efficiency-related and legitimacy-related interpretations for the non-use of ABC product costs in pricing were found. The efficiency-related interpretation is that there was a fear of an adverse market reaction and a resulting shift in demand for certain outpatient services – which would have prevented the use of strategic considerations, the use of monopoly power where that power was strong, and subsidisation of more competitive markets by the pricing system. This way, the conventional economic considerations partly overrode the immediate institutional benefits of ABC implementation, although the hospital district could still exploit the image of modernity by claiming it used the ABC system.

Physician (quote):

> The relevant question is, will the municipalities have a feeling that the prices for the year 2002 will be more accurate than before?

The legitimacy-related interpretation follows Brignall and Modell's (2002) ideas of decoupling, and Modell's (2000) arguments of compromise through balancing. The actions of professional service organisations are often decoupled from financial performance measurement, and these may not interact. If the financial measures and the actions of the organisation do interact, they do so by balancing between the contradictory constituent interests. In fact, the eventual (non)use of ABC may be interpreted as what Meyer and Rowan (1987) called sagacious conformity – using the project to make it appear that a new, modern

and legitimating technology is in use. Similar findings have been reported by Arnaboldi and Lapsley (2003), who conclude that a decoupled organisation and sagacious conformity were powerful descriptors of ABC adoption in UK local governments.

At the time, emerging management and management accounting practices in the Tampere University Hospital may not have been well-defined, institutionalised technology with defined and understood purposes. Managed care was still in the process of taking shape, and many of the parties concerned consider its influence on budgeting and cost accounting systems to be controversial, but also as initiating new roles for management. The shift towards managed care meant that hospital survival is dependent on the efficient management of outputs or products. An essential feature of the system is setting the unit prices of the products. However, since the variation between budgets and actual volumes is great, the predictability and controllability of the system are weak.

However, the Tampere University Hospital also adopted ABC for the purposes of trying to address the issues of budgeged balance, cost efficiency and transparency. According to the accountants 'without the deficit we would not have this project'. Meyer and Rowans (1977, pp. 91) claim that efficiency and institutional pressures contradict one another, and that efficiency pressures are a pernicious influence on institutions. In this case, however, the institutional and efficiency pressures are more aligned, and not necessarily contradictory. The case evidence points to the fact that the institutional pressures seem to be particularly strong in the public health care setting, but must still take the requirements of efficient pricing into consideration. The pressure from the municipalities took a different form for different actors and different stages of the project. This institutional pressure affected attitudes to activity-based costing and the use of information concerning costs and prices. The project decision resembles a situation described by Arnaboldi and Lapsley (2004), where none of the interviewees was able to justify the choice of a particular costing technology, whose selection seems to be more related to the presence of a champion of ABC in the organization (in this case, the Director of Financial Control) and management's desire to use 'modern' techniques than to a real evaluation of its benefits and its costs.

As for the professional group mostly responsible for initiating and implementing the project, the Tampere University Hospital ABC project was run by accountants, who expressed joy over the fact that there was little physician involvement. In at least one instance, this provoked conflict, presumably over the management agenda of the two professional groups. In Oulu University Hospital, the ABC implementation was initiated by the chief physicians, who also participated to some extent in the projects (although accountants seem to have done most of the 'dirty work'). If compared to the findings of Kurunmäki (1999a and 2004), the 'hybrid profession' i.e. physicians adopting management accounting techniques seem to exist to some extent in Oulu University Hospital. The chief physicians, who were responsible for the budgets of their clinics and pricing of the outputs, also had a role in designing the cost accounting system. In

Tampere University hospital, however, the accountants were able to exclude physicians from the project and assume professional dominance over cost accounting activities.

Answering the research question concerning the motivations and rationale to adopt ABC, the relevant findings, with similarities and differences between the two cases, are summarized in Table 2.

Considering the differences in motivation and expected benefits, it is not surprising that the projects in the two case university hospital districts took different directions. On the one hand, in Oulu University Hospital, there were competing projects, some of which were abandoned, and some simplified and integrated into other information systems. As the systems developed, less

Table 2

Comparing the Findings Between the Two Case Studies

	Case Oulu University Hospital	*Case Tampere University Hospital*
Method of ABC implementation /costing system structure	Several, non-interlinked, non-uniform ABC models. ABC software is a common factor for most of the models.	One, centralised and uniform ABC model.
Use of ABC/cost accounting	Full cost pricing in individual clinics.	Initially no use, intended for full cost pricing at the hospital district level.
Level of institutional pressure and type of implementation	Weak institutional pressure, mostly originating from software vendor and management consultants, *voluntary implementation*.	Strong institutional pressure through media, auditors and financiers, *coercive implementation*.
Professional group responsible for initiating the ABC projects	Profit centre or clinic manager, who is usually (but not always) a chief *physician*. Accountants have either supportive role, or are outside consultants working for the software vendor.	The ABC project is initiated and implemented by *accountants*. Partly because of the outside pressure, accountants are able to acquire professional dominance over cost accounting. No outside consultants or software vendor.
Motivation/rationale to adopt ABC	*Economic*. Argumentation concerns the beneficial influence of accurate full cost prices and elimination of cross-subsidisation.	*Institutional*. Argumentation concerns methods of answering to external criticism, and the credibility/legitimation of pricing.

emphasis was put on activity analysis and more on pricing and allocation of costs between medical specialities. Much emphasis was put on prices as a precondition to market-induced efficiency (i.e. the notion that costs should equate prices). The structural differences of these costing systems, however, were great. For instance, the type of costs (standard vs. historical), activity definitions, products and cost drivers all varied significantly. It seems almost as if the name attached to them – ABC- were the only common denominator in these systems. On the other hand, Tampere University Hospital activity-based costing and pricing project was a large, politically motivated one-off project (with perhaps an unrealistic timescale, q.v. Preston et al., 1992) and with a structure that closely resembles a textbook application of strategic, decision-making oriented ABC.

CONCLUSIONS

In the management accounting literature, the rise of ABC was associated with broader diagnoses of global change in production and markets, and prescriptions for corporate managers were adopted in response to them. The ABC phenomenon originated in the particular managerial environment of the US in the late 1970s and early 1980s, and reflected a 'productionist response' to this new environment (Jones and Dugdale, 2002). However, the specifics of its origin were soon obscured by its extension to other countries and other industries and public services.

The research problem in this study has been to compare the reactions to institutional pressures and to explain the motivations and rationale of the two case hospitals for adopting new (activity-based) cost accounting systems. These motivations are seen, following Oliver (1991) to fall into two categories: economic and institutional fitness. The economics-based view holds that the use of accounting practices yields benefits as a means of achieving efficient decision-making or an efficient organisational control system. This may be a fact, or it may be an example of institutionalised beliefs in itself – a set of beliefs that are taken as constituting reality (Mayer and Rowan, 1977; and Scott, 1987). In the first case study, Oulu University Hospital, activity-based costing was initiated and carried out mainly because of a desire to achieve accurate full cost pricing, with a firm – yet unsubstantiated – belief that this would prove to be beneficial and in the interests of the organisation. The discussion is centred on the themes of full cost pricing, and the cost allocations needed for that purpose, with the ultimate aim of preventing cross-subsidisation between various departments and outputs.

The institutional view holds that organisations adapt new, fashionable techniques because of external institutional pressure and bandwagon effects. The results show that this was certainly the case with Tampere University Hospital. Institutional theory predicts that a hospital may adopt new measures because it is pressured to increase efficiency. Alternately, it may attempt to placate the

external financiers by adopting new, state-of-the-art systems in order to claim to have adequate financial control over the situation. The case evidence supports the former reaction by the fact that there was considerable auditor pressure, while the latter is in line with Brignall and Modell's (2000) prediction, according to which hospitals may pay lip-service to the demands of economic efficiency, but in practice decouple the financial performance measures.

In fact, the situation in the second case may be such that Tampere University Hospital has gained institutional benefits, i.e. the benefits gained for political reasons concerning legitimacy and power (Carruthers, 1995). This way, despite the institutional considerations, the ABC implementation project can be explained through economic rationality – it was economically rational for the hospital district to initiate the project. This provides an answer to the criticisms levelled at institutional theory, according to which institutional theorists have neglected issues such as personal self-interest and the active use of power by organisational actors in response to the institutional pressure (see e.g. Covalenski and Dirsmith, 1988, Oliver, 1991; and Mouritsen, 1994). Efficiency-related and legitimacy-related goals may interact. The Tampere University Hospital ABC project had a strict timetable, low funding, and expected results emphasised legitimation of pricing. Since legitimation was the main goal, an aggregate system with low project costs would do fine. In some cases, distinguishing between rationalistic behaviour and institutions can be difficult – for instance, the managed care system, where the hospital sells its products to the municipalities at an agreed, but basically full-cost, price, is not a functioning market where profit maximization provides the rule for economic exchange. Rather, it is an administrative mechanism designed to imitate the external trappings of markets – products with prices that are the subject of free exchange. It can be seen as an institution in itself, a system of beliefs loosely based on economic theory, according to which the imitation of market exchange provides the benefits associated with it.

The economic and institutional rationale for ABC adoption in these two cases then form a relationship between institutional perspective and economic variables – a relationship implicitly held by many researchers (Mayer and Rowan, 1977; DiMaggio and Powell, 1983; and Carruthers, 1995; but not explicitly studied in an empirical setting. This way, the results are similar to the findings of Granlund and Lukka (1998), where economic and institutional pressures are simultaneously in effect and are intertwined in organisational practice.

With these two case studies it has been possible to contribute to the institutional literature by explication what is meant by the concept of institutionalism in management accounting, that both economic efficiency pressures and institutional forces shape cost accounting systems in organisations. The market efficiency pressures, shaped by neoclassical thinking, call for functioning markets where marginal costs equal prices – this alone causes demand for cost accounting. Most organisations are conscious of the perceived cost-effectiveness of the cost accounting systems themselves, which shapes the structure of the systems as

time passes. The institutional forces appear to be externally oriented, extra-organisational factors influencing management accounting systems, but the process of institutionalisation also takes place at the micro level, where new systems encounter old habits deeply embedded in an organisation, and new practices are formed. The cost accounting change has been what Oliver (1991) termed acquiescing – that the adoption was motivated by responses to environmental pressures to improve efficiency (economic fitness) and legitimacy (social fitness). By now it should be possible to conclude that in these case studies these two responses are not mutually exclusive alternatives, but different aspects of the diverse and often confused motivations for costing system adoption, based not on clear expected benefits, but instead on the belief that there is a need for change, and that some benefits, economic or social, may result from a change (Carruthers, 1995; Chua, 1995; and Oliver, 1991).

While it may be possible to demonstrate that the use of activity-based costing often, but not always, results in better cost estimates for decision-making purposes than allocations based purely on labour hours, such rational analyses will not explain the processes through which ABC techniques have been put to use in some hospitals, but not in others. This is why the comparison between the two public university hospitals is interesting. In the second case study the pressure for accurate pricing originated from the municipalities, which were applying financial pressure through the managed care mechanisms, and the auditors. Adopting ABC was seen as a sign of accurate pricing, regardless of the structure and the allocation mechanisms of the costing system. This sign was reinforced by the presence of academia in the project coordination group. The actual product costs obtained as a result of the activity-based costing project were not put to use in pricing. The case evidence points to *decoupled organisation* (see e.g., Brignall and Modell, 2000; Modell, 2002; and Arnaboldi and Lapsely, 2003) and *sagacious conformity* (Meyer and Rowan, 1987). The expected benefits for the hospital were mostly institutional, being able to contain the pressure by the municipalities. Thus, the beyond-organisational motives for ABC implementation, studied e.g. by Malmi (1999) in the Finnish industrial sector, were found to be quite strong in public health care. The results also confirm what Chua (1995) anticipated – new accounting systems may also emerge not because there is certain knowledge of the economic outcomes, but because there is an uncertain faith that a new system is needed.

However, structurally the activity-based costing models were found to be quite dissimilar. Institutional theories predict that organisations facing institutional pressures are coming to look alike through the process of isomorphism. Comparing these two cases it seems almost as if institutional isomorphism only influenced the names of the accounting systems (activity-based costing) and not the structure and content of the systems – evidence of Meyer and Rowan's (1977) sagacious conformity.

NOTES

1 Costing systems used in radiology are usually standard cost systems, and are widely spread across Finnish hospitals.
2 Unrealistic timescales for project implementation are not uncommon (see Preston et al., 1992).

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