Performance measurement systems in the Finnish public sector

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Abstract

Purpose – This paper aims to identify the specific problems faced by the Finnish public sector organizations in designing and implementing performance measurement systems (PMS).

Design/methodology/approach – An understanding of the problems is obtained by examining three case organizations in practice. In order to support the analysis of the empirical findings, a review of prior literature on the private and public sector PMSs is carried out.

Findings – The design and implementation processes in the Finnish public sector organizations differ significantly from the way they are realized in industrial private sector companies. The four underlying reasons for problems in public sector organizations are the following: there are many stakeholders with conflicting needs; the end products and goals are undefined; there is a lack of property ownership and lacking management skills.

Practical implications – By utilizing the results of the study, PMS design and implementation in the public sector can be carried out by taking into account and avoiding the evident pitfalls introduced in the study.

Originality/value – A large portion of the prior research on public sector PMSs consists of surveys and conceptual studies. This paper describes three case studies and reveals new insights into the specific challenges faced by public sector organizations, especially in designing and implementing PMSs.

Keywords Public sector organizations, Performance measures, Performance management systems, Finland

Paper type Research paper

1. Introduction

1.1 Introducing the research issue

Target setting has become a widespread tool in strategic management, and the need to measure the outcome of organizational strategy is growing. This phenomenon has

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emerged in both private and public sector organizations during the last decade (Neely, 1998). Performance measurement systems (PMS) were widely developed in the 1990s as a means by which large companies can support their strategic management functions (Kaplan and Norton, 1992, 1996; Simons, 2000). The Balanced Scorecard is currently the most popular PMS framework worldwide.

The literature contains numerous articles on the design and implementation of measurement systems in various organizations. Integrated PMSs are commonplace in large industrial organizations today. They have also been taken up in small and medium-sized enterprises and in the public sector. According to Kloot and Martin (2000) “the drive for reform in the public sector worldwide has focused attention on the measurement of performance in public sector organizations”. For example, the use of measures related to financial performance, customer satisfaction, operational efficiency, innovation and change, and employee performance are used in most municipal governments in the USA and Canada (Chan, 2004).

There is also a vast array of different models for PMS implementation processes (Bourne et al., 2003). By and large, these procedures and recommendations for the design and implementation of PMSs have been developed mainly from the perspective of enterprises and large industrial companies (Lönnqvist, 2004). The target setting and implementation of measurement projects in the private and public sectors have similar phases. However, empirical experiences from Finland suggest that especially the development and use of measures and measurement systems in the public sector differ from those in the private sector. In general, public organizations seem to face more problems than private organizations. The research on performance measurement in the public sector suggests that the problems are caused by the conflicting requirements of different stakeholders (Lawton et al., 2000; Wisniewski and Stewart, 2004; Mettänen, 2005). However, there may be also other reasons. This study examines the problems and challenges in public sector performance measurement.

1.2 Motivation, research approach and objectives

The issue of public sector performance measurement is very topical in Finland. The Finnish Ministry of Finance now requires all public sector organizations to implement performance measures as tools for target setting and performance management (Salminen and Viitala, 2006). Thus, at the moment many organizations try to design and implement new measures and measurement systems.

There is a lack of research on performance measurement in the Finnish public sector. However, the common view – also shared by the authors of this paper – is that the public sector organizations have quite a lot of problems in applying PMSs. This paper aims to identify the specific problems faced by the Finnish public sector organizations in designing and implementing PMSs. An understanding of the problems is obtained by examining three case organizations in practice. In order to support the analysis of the empirical findings, a review of prior literature is carried out. The first part of the literature review looks at the international research on private and public sector PMSs. This provides a basis for comparing the empirical findings of the Finnish organizations. The second part of the literature review examines performance measurement research from a process point of view, i.e. identifies specific challenges related to the design and implementation phases of measurement. This makes it possible to analyze the case study findings in relation to the phases of measurement.
A large portion of the prior research on public sector PMSs consists of surveys and conceptual studies, although a few case studies can also be found (see, e.g. Modell, 2001; Wilson et al., 2003; Wisniewski and Olafsson, 2004; Collier, 2006). There seems to be a lack of in-depth case studies that would reveal the specific challenges faced by public sector organizations in designing and implementing PMSs. Thus, the findings of this paper should have relevance also in the context of international public sector performance measurement research.

2. Design and implementation of a performance measurement system

2.1 Performance measurement in companies

The increasingly widespread use of the Balanced Scorecard has promoted the awareness of PMSs and their implementation. The literature presents many different kinds of process models for the design and implementation of a performance measurement system (Kaplan and Norton, 1996; Neely, 1998; Bourne et al., 2000; Simons, 2000; Toivanen, 2001; Lönnqvist, 2004). These models and processes have mainly been developed in the context of private industrial companies.

The main task of performance measurement and analysis is to support the decision-making process by gathering information about how well the targets have been reached and how accurate the estimates have been. By measuring and analyzing performance, a comprehensive opinion about the operation of the firm and its success, and even about the causal connections between these, can be formed. Performance measurement should be carried out at every level of the organization and it should provide valuable information about the most important dimensions of performance. According to de Bruijn (2002), the positive effects of performance measurement include increased transparency, incentives for output, and improved accountability, while the negative effects may include game playing, increased internal bureaucracy, and decreased motivation and innovativeness.

An organization needs some kind of a balanced combination of different measures to analyze the entity as a whole. Numerous PMSs have been developed to solve the problem of acquiring a balanced picture. Today the best-known integrated performance measurement system in most countries is the Balanced Scorecard. There are also many other measurement systems, such as the Performance Pyramid System, Tableau de bord, the Multi-Criteria Performance/Productivity Measurement Technique (MCP/PMT) and the productivity or performance matrix (see, e.g. Lynch and Cross, 1993 or Neely, 1998). Very often, these measurement systems, as well as the individual measures, emphasize the significance of strategies (e.g. Kaplan and Norton, 1996; Bourne et al., 2000).

The design and implementation process of the above-mentioned models is rather clear and straightforward because the ultimate goal of any private business is unambiguous – profitability. The point of view of the owners and shareholders in the target setting is especially important in today's business environment. It is also essential to take into account the targets set for the benefit of the customer, and these are usually clearly defined and recognized. The primary task in private companies is to strike a balance between the competing claims of various relevant stakeholders (e.g. owners, employees, customers, suppliers, and the community). The strategies and targets of companies in the private sector are usually clearly defined, compared to
non-profit organizations. There is also an abundance of legislation and other “rules” guiding the operation of companies.

2.2 Performance measurement in public organizations

Over the past few years, performance measurement in public organizations has gained a lot of interest among researchers. These studies discuss, among others, the design (e.g. Wisniewski and Olafsson, 2004), implementation (e.g. Collier, 2006), use (e.g. Ho and Chan, 2002; Wilson et al., 2003) and content of measurement systems (e.g. Van Peursem et al., 1995). On the other hand, performance measurement studies cover diverse public organizations, such as health care organizations (Van Peursem et al., 1995; Brignall and Modell, 2000; Modell, 2001), universities (Modell, 2003), municipal governments (Ho and Chan, 2002), corporate real estate organizations (Wilson et al., 2003) and the police (Collier, 2006). Many of these studies show that balanced performance measurement is applicable also in public organizations (see, e.g. Ho and Chan, 2002; Wilson et al., 2003; Wisniewski and Olafsson, 2004). However, there appears to be a general view that public and private organizations are different from the performance measurement point of view (see, e.g. Guthrie and English, 1997; Brignall and Modell, 2000). These specific aspects of public sector organizations are discussed next.

In the public sector, there are many stakeholders that have different and conflicting requirements (Brignall and Modell, 2000; Lawton et al., 2000; Wisniewski and Olafsson, 2004; Wisniewski and Stewart, 2004). The potential stakeholders of a public sector organization may include local citizens, clients, consumers, users, customers of the service producers, the media, elected representatives, the central government, regulatory agencies, managers, and employees (Wisniewski and Stewart, 2004). This creates at least two problems for the performance measurement system. First, taking into account all stakeholders may result in producing a multitude of performance measures that satisfy no one (Wisniewski and Stewart, 2004). Second, it may be difficult to set targets or to make decisions based on the measurement results, because some of the stakeholders have conflicting objectives. When implementing a PMS, the conflicting needs of different stakeholders must somehow be reconciled (Lawton et al., 2000; Mettänen, 2005).

Due to the problems described above, the setting of targets is not always as clear in public sector organizations as in private companies. In many cases, the ultimate target of operations may also be unclear or blurred. Hence, it is difficult for the management of these organizations to define the most important aspects or measures. This is a particularly difficult task when the organizational structure is multifaceted, and a clear chain of command is absent. For example, an ordinary medical doctor in Finland gets orders from the chief department doctor, from public hospital management, and from a boss that she or he has when working at a private clinic.

Another key challenge from the point of view of measurement is the definition of what the public organization actually produces, i.e. the question of output vs. outcome, or efficiency vs. effectiveness. For example, a hospital’s outputs include operations and procedures to heal patients. However, the outcome is a healthy patient or a healthy community. Should a hospital’s goal be to carry out a lot of operations with the given resources (i.e. to be efficient) or should it find out ways to improve the health of its patients in the long run (i.e. to be effective)? Again, these are conflicting requirements,
which affect the target setting and performance measurement as well. According to Chan (2004), measuring the outcomes is more difficult than measuring the output. Consequently, the studies by Chan (2004) and Pollanen (2005) reveal that municipal governments use more output (efficiency) than outcome (effectiveness) measures. Moreover, Guthrie and English (1997) argue that the mechanism for the distribution of goods and services in the public sector does not follow the market model appearing in the private sector.

In addition to the two fundamental problems in public sector performance measurement – the conflicting stakeholder needs and the problem of measuring outcomes – also other specific challenges have been identified. Pollanen’s (2005) study includes a collection of some earlier findings of obstacles that can hamper the acceptance and application of performance measures in the public sector. They include, e.g. mistrust of measurement, lack of credibility and usefulness, lack of standards and timeliness, substantial investment of time and resources, and resistance by public officials, department heads and employees. These challenges to the implementation seem quite similar to those in companies, however (Hacker and Brotherton, 1998; Leinonen, 2001; Bourne et al., 2003).

2.3 Challenges in PMS design and implementation process

The performance measurement studies and literature have focused on the development of a measurement system and selection of measures, also called design phase, implementation phase, and promoting systems and platforms (Kaplan and Norton, 1992, 1996; Neely et al., 2000; Simons, 2000; Toivanen, 2001; Tenhunen et al., 2001; Bourne et al., 2003; Mettänen, 2005). The success of the performance measure system can be considered, e.g. through the phases of the process.

The design and implementation of a PMS are closely related but different phases. According to Bourne et al. (2000) and Leinonen (2001), choosing the success factors and defining the measures can be called designing the PMS, and the phase of taking the measures into use can be called implementation. Designing consists of choosing the factors to be measured on the basis of vision and strategy and then ideating suitable measures. The implementation of these measures consists of putting the systems and procedures in place to collect and process the data that enable the measurements to be made regularly (Bourne et al., 2000).

The design of performance measures sets the foundation for implementation, and eventually for using the measures. Thus, any problems occurring in the design phase may lead to more problems in the following phases. Leinonen (2001) has identified some challenges experienced by managers in designing performance measurement systems. First, data integration seems to cause most problems when designing a performance measurement system. The second problem is the difficulty in detecting and creating the linkages between the measures and balancing the measures. Bourne et al. (2003) have, based on earlier literature, listed problems that may cause difficulties in the design of performance measurement systems. They include difficulties in evaluating the relative importance of the measures and the problem of identifying the “true” drivers, the time and expense required, the need to quantify the results in areas that are more qualitative by nature, and striving for perfection.

The Institute of Management Accountants (1998) suggests that in successful design of performance measurement systems, front-line employees should participate in
defining the performance measures; the developed measures should be concise, intuitively obvious and focused on strategic goals; all measures should be defined so that they together guide towards the achievement of the strategic goals; all measures should be such that they can be influenced by the actions of the person or group whose performance they measure. An important factor affecting the success of the design process is the effort of the facilitator (Bourne et al., 2002).

Hacker and Brotherton (1998) suggest three guidelines for the successful implementation of a performance measurement system. First, the personnel must be required to use the measurement system. The managers can support this by showing their commitment to the management tool by scheduling performance review meetings in which the measurement results are examined. Second, issues related to the availability or integrity of data should not delay the implementation. If data is not available for certain measures, the managers should find alternative ways for accessing the data or identify other types or sources of data. Third, the reporting and standardization of the results should be done using standard formats. Varying, e.g. the chart types when presenting the data may waste time, because it is spent in trying to understand the content in the new formats and in doing the varying itself.

Bourne et al. (2000) have identified three challenges in the implementation of performance measures. These are the resistance to measurement occurring during the design and use phases; computer system issues occurring during the implementation of the measures; and distracted top management commitment occurring between the design and implementation phases. Also, Hacker and Brotherton (1998) mention the lack of leadership and the resistance to measurement due to fear of measurement as the greatest problems in measurement.

Bourne et al. (2003) suggest that implementation is experienced as difficult if the measures are too poorly defined, it takes a lot of time and money, and there is a need for a highly developed information system. Also, Leinonen (2001) has identified that the lack of resources causes problems in implementing performance measures. One additional problem that has not been mentioned yet is disturbing actions by the parent company (Hannula et al., 2002). The parent company may, e.g. demand certain issues to be reported by all business units, change the organizational structure, or start new projects, which may lead to giving a lower priority to the measurement project.

2.4 Summary of prior research
Based on prior research it is possible to create a framework including some success factors or characteristics of the development of a PMS in companies. First, it is important that the aim of the development of the measurement system is clear. In a typical private sector case the objective is to turn strategy into action (see, e.g. Kaplan and Norton, 1992, 1996; Toivanen, 2001). Second, in a private organization there is usually one responsible or leading person (or group of people) organizing the measurement development process or project. Third, the personnel involved should be aware of and understand the aim of the performance measurement development (e.g. implementation of the strategy). This usually occurs in a private company when the design of the measurement system is successful. Fourth, in a typical private sector case the unit manager (or cost centre manager or profit centre manager) is responsible for the measurement development (Toivanen, 2001; Mendibil and MacBryde, 2004). Fifth, in a successful measurement system development, the personnel involved reacts
positively to change. In a private organization the personnel usually accepts change, either slow or fast (or leave the organization). Finally, during a successful measurement system development project there are no overlapping measurement projects ongoing in the organization, i.e. no unnecessary work is done as regards measurement.

There is a lot of practical experience from using PMS in private organizations, and it has also been studied quite a lot. There is less practical experience and research on public sector PMS, but it seems to be growing. In the public sector the two main problems related to the nature of public organizations are the lack of clarity of the goals of operations and the multitude of stakeholders, resulting in many conflicting objectives and measures. They are also the reasons for the main differences to private sector performance measurement. The general challenges in public sector performance measurement are well known. However, the specific challenges related to the design and implementation process are unknown. A detailed examination of the process point-of-view might result in better understanding of the challenges in public sector performance measurement. This will be taken into account in the following empirical section of the paper.

3. Case studies in three public organizations

3.1 Research method

In order to gain a more thorough understanding of the challenges that public sector organizations face in applying PMSs, three case studies which examine the design and implementation process of a performance measurement system in public organizations were carried out.

The case study method, as an expression of the hermeneutic paradigm, is often used in business and management studies. The case study is a research strategy that focuses on understanding the dynamics of management and organizational processes. The case study concentrates on such research questions as “How?” and “Why?” (Yin, 1989). Because deep understanding in a scarcely studied area was needed, the qualitative research approach was selected. Comparing the objectives of this study and the data gathered from the case firm, a statement of Miles and Huberman (1994) justifies the qualitative approach: “With qualitative data one can preserve chronological flow, see precisely which events led to which consequences, and derive fruitful explanations.” In qualitative research, the researchers typically have a relationship to every single observation, i.e. interviewed informant. The researcher can first go back to issues that were not clear at the first time or in a certain context, and second, ask the informant to focus some of his/her messages or acts for example on why, how and what questions, and third, call into question some or all the actions of the informants in order to encourage the informants to explain and express the motives of their activities. Identifying the nature of the informants and the motives behind their activities may be easier when the researcher has continuous or recurrent access to the context of the informant.

In the development of a theory it is not necessary to find statistical evidence on single issues, but the aim is rather to understand and to conceptualise a phenomenon (Eisenhardt, 1989; Yin, 1989). In experimental development research, four features are present: the research is performed as an intensive case study based on the tradition of action research, the research aims at theoretical generalizations, the research is based on experimental development intervention of the researchers, and the goal of the
research is methodological discipline (Hyötyläinen, 2000). The extreme form of organizational participation is action research, in which the researcher influences the informant, and thus the research results as well (Argyris and Schön, 1996; Kaplan, 1998; Coughlan and Coghlan, 2002). The present study has been carried out as an action research. “Action research engages the researcher in an explicit program to develop new solutions that alter existing practice” (Kaplan, 1998). In addition, organizations reveal more information to a researcher who works in order to develop the organization than to a researcher who only makes observations. However, Kaplan (1998) separates research from consulting by the requirement of gathering and analyzing detailed data, and publishing the results of the studies “so that others can independently develop and validate the ideas”. Hence, in the spirit of the general limitations of case studies, also well-conducted experimental development research with the action research approach can be considered as reliable as cases in which the researcher is only an observer. In the following chapters, the actions taken in the case companies are reported as they occurred.

Choosing the cases is an important phase of case research. Case research does not rely on the random sampling used in statistical research. Instead, theoretical or purposive sampling is used (Eisenhardt, 1989; Yin, 1989; Curtis et al., 2000). This means that the choice of cases is based on some theoretical reason. For example, it is rational to choose such cases that seem to present new aspects of the studied phenomenon. Sometimes extreme or polar situations, e.g. successful and unsuccessful cases, are chosen (Eisenhardt, 1989). The number of cases is one practical aspect in choosing the cases. Single and multiple case studies can be used. Multiple case research allows cross-case analysis.

This study is a multiple case study. The case organizations are: (A) a Finnish university; (B) a state agency working under the Ministry of Trade and Industry, serving also the Ministries of the Environment, the Interior, and Transport and Communications; and (C) the maintenance function of the Finnish Defense Forces (FDF). The cases were chosen because they represent different kinds of public sector organizations, which makes it possible to identify common factors in public sector PMS design and implementation regardless of the specific characteristics of a certain type or organization (e.g. university or military). It should be noted that organizations A and B are independent units and organization C is under the command of the FDF. This makes the role of management accounting in general and especially performance measurement slightly different in the case organizations. While the target setting in case C is indirectly driven from FDF targets, organizations A and B create their strategy independently. This makes it clear that A and B may use both efficiency and effectiveness measures, but C can only use efficiency measures while the ultimate effectiveness is defined and measured by the FDF. However, from the point of view of explorative case study and theory building, this difference in the case organizations’ role is expected to provide the scientific community with rich observations and analysis. As we all know, the public sector is full of non-independent functional units as well as of strategically independent units. Referring to the aim of this paper, our purpose is to bring certain generic performance measurement features of public sector organizations into the academic discussion so that more quantitatively oriented research can be designed with the help of rich pre-understanding of the phenomena discussed here. This is why we use data from non-comparable units.
A practical reason for the case method was the ease with which data could be found, processes observed, and additional information obtained, as some of the researchers were working inside these organizations. These case studies have been presented in closer detail in separate articles (Rantanen and Levä, 2005; Rantanen and Oikarinen, 2005; Kulmala et al., 2006). The analysis of the processes in the case organizations is based on observations by the researchers and on interviews. The observations were made in project meetings and during the process. In addition, a semi-structured questionnaire was used in the interviews in case organizations A and B. The members of management and some persons involved in the implementation process were interviewed. As organization C concentrated mainly on cost and productivity measurement implementation, the questionnaire did not fit this context.

3.2 Case A – a medium-sized university
Case organization A is a medium-sized university. The university has a budget of about 56.5 million euros and it employs about 900 persons. The rector, one subgroup member (professor) and one administrative worker were interviewed for this study by using a questionnaire. The interviewees were all are familiar with performance measurement on the general and theory level. The rector had launched the performance measurement program. The professor of accounting was a member of a group that developed measures for teaching. The administrative worker acted as a secretary in all the subgroups developing measures. In addition, she prepared her doctoral dissertation concerning the measurement of the regional efficiency of universities. One of the researchers worked inside the organization and was also a member of one subgroup developing the measurement system.

The objectives for the integrated performance measurement system at the university were rather wide. The target was to utilize the system, e.g. in the strategic steering, decision-making, and management of the university. There was a need for applications, e.g. in performance measurement at all levels, quality management in all sectors, and co-operation between the university and the Ministry of Education. The measurement project was carried out in 2003–2005. In the beginning of the measuring project the management of the university organized three subgroups to formulate the measurement system. The subgroups were founded to develop special measures for the three strategic areas of the university: teaching, research, and production of services for the community. There were three levels where the measurement system was to be utilized; the level of the whole university, departmental level, and the level of teams and individuals.

One basic problem seemed to be that the main purpose or aim of the measurement was not clear. All the interviewees were uncertain about what the main purpose of the measurement system was. The rector had a slightly clearer view on the main purpose than the other interviewees. In their opinion, supporting the management or leading the operations were the main purposes of the measurement system development project. This means that the original commission was unclear.

The interviewees had conflicting opinions concerning whether the expertise in the performance and measuring projects of their own organization had been utilized enough or at all for the project. According to the management, the knowledge of specialists among the university staff was utilized, but this argument was not agreed on by the interviewed specialists.
Overall, it can be summarized that the design and implementation process was not very target-oriented. The fact that the process did not have a timetable or a budget reflects this. According to the interviewees, there were some scheduling problems during the development process. Almost simultaneously with the measuring project (or a little bit later), a need for quality system development was emerging. Also a new nationwide evaluation regarding an individual work performance system including a bonus salary system was to be adapted in the beginning of the year 2006 in all universities in Finland. Both required development resources, which affected the development of the PMS.

Another matter mentioned by the interviewees, concerning almost the same problem, was the common slowness in the progress of all development processes. The main reason for this was mentioned to be the insufficiency of financial resources.

### 3.3 Case B – a state agency subjected to the Ministry of Trade and Industry

Case organization B is a state agency subjected to the Ministry of Trade and Industry. Case organization B has a budget of about 9.8 million euros and it employs about 120 specialists. The measurement project was carried out in 2003–2005. The interviewees (total three) were representatives of the management and white-collar workers. They were all familiar with performance measurement and the objectives of their performance measurement development process. One of the researchers worked inside the organization and was involved in the PMS project.

The manager who had launched the process and the specialist were involved in this development process. The preliminary target in the agency was to develop a productivity measurement system. They wanted to know how effective the organization was and how to satisfy the stakeholders’ needs of information. They also wanted to measure the productivity of the organization. They knew the inputs, but the output measurement was out of focus. Rather soon they determined that the objective was to develop a PMS for the organization. They wanted to measure the performance in different sectors and improve it.

One of the main problems in case B seemed to be the nature of their task operation, as the main purpose of the organization is dualistic. The organization operates at the same time as an official supervisor and as a customer-oriented expert organization building technically safe and reliable solutions for their customers. Both these viewpoints were taken into consideration in the evaluation process. It was common for all the interviewees of case B that it was somehow unclear who the real customer of the organization was.

Also in case B, the main purpose of the measurement project was not at all clear to the interviewees. In the beginning the project team did not know whether they should primarily measure the units, actions, or sectors, or what the level of management should be. All the interviewees agreed that the level of target orientation was low and the objectives unclear. They also agreed that the responsibilities in the development process were rather unclear.

Many other common problems existed as well. The flow of information did not work properly in this organization. There seemed to be some communication problems between the units and the persons in the organization. There were many overlapping projects. The relationship between these projects was undefined and unclear. The
measures or indicators were defined in various levels and units. There were differences in the identification and definition of processes.

One main problem seemed to be that the group leaders were technological specialists, and their capabilities and knowledge in management issues were lacking when it comes to establishing objectives, as well as in the implementation of management tools and measurement systems. The employees in the organization were specialists who might be highly sensitive about issues of status and respect. They were also autonomous, independent and sensitive to feedback from colleagues. These elements made the specialists difficult to manage. The interviews also revealed that disagreements existed between the personnel. This, in turn, was reflected in problems of commitment to the development process. All the interviewees mentioned differences of opinion.

3.4 Case C – the maintenance function of the Finnish Defence Forces

Case organization C is the vehicle fleet maintenance of the Finnish Defence Forces. This part of the maintenance function[1] consists of centralized management and several repair shops in garrisons. The measurement project was carried out in 2003–2004. The leading generals and officers from different maintenance units had no experience and education on performance measurement as an expertise area in management accounting. Their background was from military operations, in which the word “performance” has a totally different meaning than in management accounting. The management accounting professionals working in FDF do not work in the maintenance function, and they are not used for designing a performance measurement system but for providing data for responsible persons.

The primary driver for measurement needs in case C was the observed potential of using outsourcing to reduce costs and improve efficiency. Case studies and experiences in the U.K. had convinced part of the commanders at the FDF Headquarters so that they expected private public partnership to release military resources from supporting operations (maintenance) to the core business of the FDF (defence). Before outsourcing any FDF activities, the costs and efficiency of in-house operations should be known, however. This led to the need to measure activity-based costs and to analyze the productivity of FDF units.

What actually happened was that several maintenance units decided to organize activity-based cost and efficiency analysis of different activities independently. The measurement was not standardized in different units, but the units measured non-comparable activities by using consultants knowing almost nothing about the other consultants in the other units. This problem was solved so that one territory commander organized a new cost and efficiency analysis, in which all the units in his territory were measured with standardized methods. The results of many consultant calculations were communicated to the personnel, which caused suspicion about the employees losing their jobs in the case of potential outsourcing and questions on how it is possible to calculate different costs to same activities. When the end report of the calculations in this territory was written, the working group nominated by the Ministry of Defense was not unanimous and a minority report was submitted.

At the same time, the FDF in general utilized activity-based costing. The system provided well-organized information on the total costs and performance indicators, like productivity on an aggregated level, e.g. at the overall garrison level. Hence, the real
decision-makers, those responsible for the maintenance function, could not utilize the information from this system because it did not give an answer to the question of whether a vehicle is faster back in use from a private maintenance shop or from an FDF maintenance shop and what the cost of using different maintenance processes is. Even though the need of this kind of measuring was continuous, there was no tendency towards continuous measurement. In contrast, almost all activity measurement was understood as separate analyses.

Significant resistance to change took place when the results of different cost and efficiency analyses were compared to the performance indicators gathered from the private sector. The majority of FDF personnel mentioned that all the work at FDF is defense work and therefore the costs should not matter, and private companies should not be involved. On the other hand, there were a lot of activities that had been outsourced to private companies tens of years ago. This resistance to change was linked to the personnel’s inability to make a distinction between different customers: while a lot of warehousing and planning was done in order to prepare for a crisis, most of the routine work was done to keep up peacetime military education. On the basis of the crisis preparation, a low capacity utilization rate was accepted also in peacetime activities, which made these activities inefficient. In activity-based costing, the FDF had serious problems in keeping these “customers” separate. No solution to this problem could be identified during the measurement process, but a suggestion for separating the peacetime and crisis planning activities was done.

The objectives for any measurement in the FDF seemed to depend on the stakeholder group. The commanders were interested in the efficiency and effectiveness of activities, the politicians who gave the budget limits were interested in low total costs, high activity volume, or decreasing the unemployment rate, depending on their political direction, and the employees were interested in making their maintenance unit look more efficient than others in order to save their jobs. This left too much non-objective room for speculations every time when something was to be measured. For example, a pilot project of outsourcing in one garrison turned out to be more costly than in-house activities because non-necessary work was done for the project.

4. Analysis of the findings

4.1 Summary of key observations

In order to understand the most typical problems in public sector measurement, the case studies are summarized in Table I. The characteristics of the performance measurement development process of the private sector (presented in the literature review section) have been used as a basis of the summary analysis. The findings are discussed in the following paragraphs.

First, the case organizations seemed to go too much into detail in the objectives of individual measure development. In all cases the objective was not directly taken from the strategy, but rather from a single objective caught from the ministry in question. Second, the measure development was organized so that it did not serve “one master” but tried to take into account many aspects of the results. It seemed that the public sector organizations had no idea of strategy maps, but concentrated on managing one single success factor at a time.

Third, in most cases the personnel did not understand the objectives of the measure development. Fourth, too many responsible persons in the development led to
non-responsibility. Fifth, the personnel of the case organizations mostly did not see any use of the project in their work. In contrast, the personnel turned against the project by ignoring or resisting it. In the private sector, a determined resistance against management typically leads to losing one’s job. Finally, overlapping projects took the time of the people. While the case organizations had many “masters” (ministries, centralized management, local authorities) to serve, these also demanded the organizations to measure what was interesting to them, regardless of what and how the other “masters” wanted to measure.

4.2 Comparing the case evidence to prior PMS research findings
The observations described above support previous studies. As already mentioned, there are many different stakeholders that might have conflicting requirements. Therefore, it may be difficult to set targets (the first point in the previous section). Informing the organization was considered a challenge also in, e.g. Leinonen’s study (the third point). Similarly, according to Pollanen (2005), mistrust of measurement and the resistance of employees (see also Hacker and Brotherton, 1998) are common obstacles (cf. the fifth point). Finally, as shown in the three case organizations, other studies (e.g. Leinonen, 2001) have also found that the lack of resources causes problems in measurement projects.

It seems that the Finnish public sector organizations face similar problems as public sector organizations in other countries. Also the main differences to companies seem similar to those observed in prior research. Some congruence between the private sector performance measurement process and the case study experience was also observed. In the following section the problems experienced by the Finnish public

<table>
<thead>
<tr>
<th></th>
<th>Case A</th>
<th>Case B</th>
<th>Case C</th>
</tr>
</thead>
<tbody>
<tr>
<td>What was the aim of the measure development?</td>
<td>To support strategic steering, decision-making, and overall management</td>
<td>To improve productivity and performance</td>
<td>To reduce costs and improve efficiency</td>
</tr>
<tr>
<td>How was the measure development organized?</td>
<td>Different subgroups for three functions</td>
<td>Internal project group supported by researchers</td>
<td>Outsourced to different consultants</td>
</tr>
<tr>
<td>How did the personnel involved understand the aim?</td>
<td>Not clearly, contradictory</td>
<td>Not clearly and not fully</td>
<td>Contradictory aims</td>
</tr>
<tr>
<td>Who was responsible for the development?</td>
<td>No clear responsibility, nominally the rector, practically the secretary</td>
<td>No clear responsibility</td>
<td>Maintenance function commanders and unit commanders</td>
</tr>
<tr>
<td>How did the personnel involved react to the development?</td>
<td>Ignorance, concentration on other projects, contradictory</td>
<td>Contradictory, even conflicting</td>
<td>Resistance of change, manipulation of results</td>
</tr>
<tr>
<td>Were there overlapping projects?</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Table I. Summary of the case observations
sector organizations are analyzed more thoroughly and linked to the phases of the performance measurement process.

**4.3 Analysing the challenges from the process point-of-view**

At the general level the design and implementation processes in the Finnish public sector organizations differ significantly from the way they are realized in industrial private sector companies. There are many reasons that explain the differences. These differences were discussed above in light of previous research and three case studies. The differences cause problems in applying performance measurement in the public sector organizations. Some key characteristics of public sector organizations and the problems in performance measurement that can be linked to them are summarized in Table II. The four underlying reasons are also described below.

There are four main causes for the problems of performance measurement in Finnish public organizations – and elsewhere as well. First, there are several stakeholders that should be taken into account when designing a PMS (Lawton et al., 2000; Wisniewski and Stewart, 2004). Second, the main objective activity is unclear (Chan, 2004; Pollanen, 2005). In addition, the activity is not primarily driven by economic criteria. Cost effectiveness and target orientation are not common phenomena in public sector organizations. For example, in practice the main objective in a hospital is most likely the safety of patients, in the defense force the defense capacity, and in a school the quality of learning. However, critical assessment

<table>
<thead>
<tr>
<th>Characteristics of public sector organizations (underlying reasons)</th>
<th>Problems in performance measurement (outcomes caused by the reasons)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factors affecting the design of a PMS:</strong></td>
<td></td>
</tr>
<tr>
<td>Many stakeholders with conflicting needs</td>
<td>Difficulties in solving the conflicts between the needs of different stakeholders (i.e. not clear what should be measured)</td>
</tr>
<tr>
<td>Undefined end products and goals (efficiency vs. effectiveness)</td>
<td>Difficulties in target setting (i.e. not clear what the goal of the operations should be)</td>
</tr>
<tr>
<td><strong>Factors affecting the implementation of a PMS:</strong></td>
<td></td>
</tr>
<tr>
<td>Lack of ownership of the property</td>
<td>Representatives of different stakeholder groups influence the development of individual measures on a too detailed level</td>
</tr>
<tr>
<td>Poor management skills</td>
<td>The personnel does not understand the objectives of the measure development</td>
</tr>
<tr>
<td></td>
<td>Too many responsible persons in the measurement development lead to non-responsibility</td>
</tr>
<tr>
<td></td>
<td>The personnel does not see the usefulness of the project for their work and ignore or resist it</td>
</tr>
<tr>
<td></td>
<td>Overlapping projects hamper the measurement project because they take resources</td>
</tr>
</tbody>
</table>

Table II.
Classification of the underlying reasons and practical problems in the performance measurement of public sector organizations
of the processes is often ignored. For instance, learning results are often explained with the size of the class, and similarly, defense capacity is usually measured with the monetary input. In general, better results could be achieved by doing things more effectively. As a summary, identification of the main long-term objective in public organizations is not easy compared to the private companies (in which the primary long-term goal is usually profitability), and therefore the decision-making is guided by many different factors.

The third cause for the problems is related to the ownership of the property. In many public organizations everything is collective and, at the same time, nobody’s property. It is not clear who is responsible for the hospital or university and controls it, as in private companies. First, representative democracy is often too distant to keep an eye on the property. Second, an individual tax payer usually can not interfere with these issues in practice. Since there is no “actual” owner, also the controller of the performance is missing.

The fourth cause for the problems is the lack of managerial skills. In public organizations the manager is usually chosen by substance skills rather than managerial capabilities. This leads to a situation where the manager of the organization is the best expert – not the best manager. For example in hospitals the best surgeon will often be chosen for the administration. An incompetent manager does not necessarily know what he or she is supposed to manage and, furthermore, measure. As a result, the development of processes and the design of performance measures can be based on rather low competence. Due to the above, the processes may be ineffective and the measures defective. For example, the fact that the measures are designed to measure ineffective processes (i.e. wrong things are encouraged to be done effectively) might cause serious disadvantages. In addition, in public organizations the lack of development of the organization in general (e.g. measurement) may be caused by shortage of incentives. Incentives are essential tools for motivating managers to improve and measure performance.

The two first causes, and partly the third, described above are related to the nature of public sector organizations, and hence they are not easy to overcome. They affect mainly the design of the PMS. The two latter causes are related to the management of public sector organizations (and the implementation of the PMS) and they may be easier to fix by developing the management practices in these organizations. In addition, the problems are mainly due to the political and social culture in Finland. In public organizations the political administrative structure usually defines the mechanisms for decision-making and the ways of operating. Therefore, the political focus and the demands of different stakeholders might have significant influence on the target setting and the way of operating in public organizations.

5. Conclusions and discussion
This paper has discussed the design and implementation of a PMS in Finnish public sector organizations. The study was composed of a literature review and information gained during PMS development processes in three Finnish public organizations. The main result of this paper is a framework of challenges in public sector performance measurement (presented in Table II), combining the process view and the practical problems experienced. Even though the framework is based on the specific challenges
of the case organizations, it is believed that the results can also be utilized in other public sector organizations.

The findings of this paper raise an important question for further research: how can the factors affecting the design and implementation of a PMS in public sector organizations be overcome or at least taken into account better in order to be able to create an effective PMS in practice? As a basis for further research and development we suggest that the following means for overcoming the potential problems in public sector PMSs might be considered:

- The factors related to the nature of public sector organizations that affect the design of the PMS may be influenced by increasing the use of outsourcing, public-private-partnerships and privatization, which all enhance the potential for control in the operations in question and transform the running of activities towards the style used in companies.

- The factors related to the management of public sector organizations that affect the implementation of the PMS may be influenced by increasing personnel education and recruitment from the private sector, as well as changing the manager selection criteria. These means could improve the managerial competencies and thus create better possibilities for using management tools including a PMS.

If the separation of the funding of operations from the management of the operations continues as it seems to do in the Western societies, it is very important to get the public sector organizations to be known as well-managed. While the funding for using certain services may in the future (healthcare etc.) come from the public or the private sector, the operations as such must be managed efficiently anyway. If the current public sector organizations are willing to survive in any form, their need to improve their performance measurement skills seems huge.

**Note**

1. To maintain confidentiality, the authors cannot express the monetary volume of the operations. To give an idea of the size of the organization, the work of hundreds of people is concerned.

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