

**CONDITIONS FOR A SUCCESSFUL IMPLEMENTATION OF ACCOUNTABLE  
MANAGEMENT: EVIDENCE FROM DUTCH MUNICIPALITIES**

\*\*\* WORK IN PROGRESS \*\*\*

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**Abstract:**

In order to improve the organizational performance of governmental entities, there has been a tendency in many countries to introduce management reforms that are believed to prevail in public firms. The term 'NPM' (New Public Management) was coined to label these reforms. In NPM it is stressed – among many other things - that public services have to be rationalized and emphasis laid on quantification as a means of demonstrating achievements (efficiency gains, new levels of performance) and of holding responsible persons accountable. In the Netherlands, many municipalities have adopted NPM reforms.

This paper considers the results of these NPM reforms. In particular, it focuses on the recommendation of NPM to place more emphasis on the measurement of the performance of subunits in terms of output and to hold managers accountable. This research studies whether managers are indeed motivated by such measures. This paper uses a contingency-type approach. Following the Reliance on Accounting Performance Measures literature, special attention is paid to environmental uncertainty. This has been shown an important factor in the relationship between the use of accounting and control systems and the functioning of these systems (in terms of effectiveness and efficiency).

This paper aims to enrich and extend the empirical links among accountability, uncertainty and organizational performance. The data are derived from a survey, which was sent out to the “department for civil affairs” and the Social Security department of each Dutch municipality. This survey resulted in 236 usable responses, representing approximately 28% of these departments. Furthermore, cost and performance data were used from Statistics Netherlands. Data Envelopment Analysis en Moderated Regression Analysis were used for the analysis.

Contrary to expectations it is not output indicators but throughput indicators that are used for holding managers accountable. Furthermore, the results show that greater emphasis on financial criteria alone (high RAPM) does not stimulate managers to increase performance. Contextual variables also must be considered. Whether managers are stimulated by NPM measures to improve performance depends on organization characteristics and task characteristics of the department. In low task uncertainty situations and adequate organic processes, holding managers accountable for results seems to provide a stimulus for performance improvements. These results also hold when cost and performance data are used instead of 'subjective' indicators.

**Keywords:** Qualitative analysis; Moderated Regression Analysis; Reliance on Accounting Performance Measures (RAPM); Environmental Uncertainty; Game of budget control

## **1. Introduction**

New Public Management (NPM) concepts call for the introduction of more incentives in governmental organizations that are believed to prevail in private firms, in order to improve effectiveness and efficiency (Dixit, 1997). Placing more emphasis on measuring the output of subunits and holding managers accountable, is one of these incentives (Hood, 1995). In doing so, managers are thought to be motivated to improve decision-making. As a result, governmental organizations are expected to improve their performance.

During the last two decades, NPM concepts have derived much attention in western countries, including the Netherlands, the country this study focuses on (e.g. Groot, 1999; ter Bogt and van Helden, 2000). Financial management techniques from the private sector have been introduced to government organizations. Two important changes were decentralization/autonomization and greater emphasis on output control (ter Bogt and van Helden, 2000). These two changes are interrelated. In the Netherlands, many municipalities replaced the traditional centralized organizational structure by a decentralized organizational structure (van Helden and Jansen, 2003). In the new structure, the responsibility for policy execution was laid on the level of the divisions and the divisions were also given more extensive powers of decision making. The more freedom for the divisions also meant an obligation for them to provide more and better information and to account for their actions (ter Bogt and van Helden, 2000).

Despite considerable interest, relatively few studies have been conducted on the effects of management reforms on the efficiency and productivity of nonprofit organizations (Groot, 1999). Convincing evidence that it will lead to greater efficiency and effectiveness has not yet been found (Pollitt and Bouckaert, 2000; Lapsley, 1999). Empirical studies about the effects of introducing NPM instruments show mixed results. There are reasons to expect that private sector management will not work in a nonprofit environment because goals may be ambiguous, outputs are not always readily measurable, and nonprofit professional production technology may not be well understood (Hofstede, 1978, 1981; Ouchi, 1979). As a result, holding managers accountable may be problematic.

This research aims at deepening and extending the understanding of the behavioral and organizational effects of holding managers accountable in governmental organizations. We will show that the specific environmental characteristics of these organizations (for example, the political environment) do not have to be an impediment to holding managers accountable for results. Instead of external aspects, internal organizational characteristics (such as the way accounting information is used by superiors and the organizational climate) seem to be much more important for the relationship between accountability and government performance.

This paper is structured as follows. The next section introduces the research questions. This is followed by a description of the study design and method. We will then elaborate on what accountability and uncertainty mean in daily practice to managers at Dutch municipalities. The extent to which managers are held accountable for results and how much uncertainty they experience in daily practice are the subjects of the following section. After that, we discuss the relationship between accountability and performance. The paper concludes with a section in which the major results as well as some limitations of the current study are discussed.

In this paper a contingency approach is used. It is expected that holding managers accountable will lead to improved performance only if certain conditions (such as a stable environment) are fulfilled. Although the number of contingency studies in management accounting is quite

large, only a limited number of these studies were of nonprofit or governmental organizations. Therefore, at the start of the study we decided to use a grounded research approach (Glaser and Strauss, 1967) and aimed at developing a framework for the relationship between accountability and government performance, based upon empirical data. However, after the first phase of this project, it became apparent that instead of having to develop an entirely new framework, this study could build on the insights from the Reliance on Accounting Performance Measures (RAPM) literature.

Although ‘accountability’ and ‘being held accountable for results’ are key elements of NPM, little is known about the meaning of these concepts on the level of day-to-day management. What does this accountability mean to managers? For what, how and by whom are they held accountable? Therefore, the first research question of this paper is:

**1. What is the meaning of the concept ‘accountability’ to managers in governmental organizations?**

As already stated, being held accountable can be problematic to managers in governmental organizations in certain circumstances. To begin with, one reason why this could be problematic, has to do with the identification of the organization’s goals. This identification and definition of the products of governmental organizations is a relatively subjective exercise, and therefore, output-indicators are also relatively subjective and easy to manipulate. Furthermore, decision making in these organizations is a consequence of the multiple, conflicting political pressures, which result in relatively vague compromises that are also very unstable (Pollitt, 1990). Various interests are likely to result in various output measures (Anthony and Young, 1994). Due to these circumstances, identifying the relevant performance indicators and their targets is complicated for governmental organizations. As a result, holding managers accountable when targets are not clear could lead to negative effects.

A second reason why being held accountable could be problematic has to do with the external environment of governmental organizations (cf. Govindarajan, 1984). Not all circumstances are under the control of managers. They can be confronted with (external) uncertainties which influence the performance of their departments. The controllability principle states that managers should only be held responsible for events and accounting items that are reasonably under their control (Modell and Lee, 2001).

In this research project, we want to find out what could be the impediments in implementing accountable management. Such impediments could cause negative behavioral effects on managers. Therefore, the second research question is:

**2. Are managers in governmental organizations confronted with circumstances that make it problematic to be held accountable for results?**

In this project, we expected that a higher level of uncertainty makes it undesirable to hold managers accountable (e.g. Hirst, 1983; Govindarajan, 1984). Holding managers accountable under such circumstances can lead to dysfunctional behavior from managers and as a result, poorer performing organizations. The third research question is about this influence of uncertainty:

**3. What is the influence of the level of uncertainty upon the relationship between accountability and organizational performance?**

By dealing with the aforementioned research questions, we aim at gaining insights into the behavioral effects of holding managers accountable under conditions of uncertainty. We

expect that positive behavioral effects will result in improved managerial and government performance. However, because of the exploratory character of this research project, we also wanted to keep an ‘open mind’ for other circumstances which encourage government performance as well. Therefore, the fourth research question is generally formulated:

**4. What are the factors that municipal managers feel are important in enhancing their organizational performance?**

**2. Overview of study design and method**

**Study design**

This paper studies Dutch municipalities. These organizations supply a wide array of services, from printing passports to collecting garbage. Since the mid-1980s, the Dutch municipalities have changed their management (such as their planning & control tools, see ter Bogt and van Helden, 2000) and their internal organization (ter Bogt, 2001). These developments were stimulated by spending cuts, national legislation and the Policy and Management Instruments (PMI) project<sup>1</sup>. However, from previous research we know that there are great differences among the municipalities with respect to the level of implementation of these changes (Groot and Budding, 2003). Furthermore, ter Bogt and van Helden (2000) have shown that there is a wide gap between formal accounting changes and their actual application. In this project, we want to make comparisons between organizations that differed in the extent to which NPM reforms have been implemented in practice. We aimed at including as much variation as possible. Therefore, we included municipalities that implemented and actually used a large number of NPM reforms (the NPM group) and municipalities that implemented only some (or none) of these reforms (the non-NPM group).

Because we hope to provide further insight into the effects of being accountable for results, we chose that level of analysis at which results could be measured. Therefore, managers were interviewed in this project at the level of a separate identifiable unit. Two municipal departments were the subject of this project: the “department for civil affairs”<sup>2</sup> and the social security department<sup>3</sup>.

Due to the exploratory character of this project, we decided to conduct the study in three phases; the Orientation phase, the Multiple field study phase and the Survey phase<sup>4</sup>.

**Orientation phase**

The first phase, the orientation phase, aimed at getting a better insight into the meaning of the concept ‘accountability’ (research question 1) and the circumstances in which ‘being held accountable for results’ were felt to be problematic by managers (research question 2). In this

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<sup>1</sup> In Dutch: het BBI (Beleid en BeheersInstrumentarium) project

<sup>2</sup> In the Netherlands, every municipality has a department for civil affairs which is responsible for the administration and execution of the marriage law, the provision of a system for the registration of deeds (births, deaths and marriages), the issuing of driver licences and passports and other services to citizens.

<sup>3</sup> Social security departments are responsible for welfare and employment issues, such as providing help in finding employment and paying allowances. In the Netherlands, the execution of these services is the responsibility of the municipalities. Most municipalities have their own social security department, although some municipalities subcontract a part of these services.

<sup>4</sup> The description of the first two phases in this paper is based upon Budding (2004).

phase, eight interviews were held in the period between April and May 2001. Four of the interviewees are managers at municipalities<sup>5</sup>, the other four are experts in the field of performance measurement in nonprofit organizations (e.g. management consultants, professors). Before the interviews were held, an interview protocol was constructed. In this protocol the procedure and the main items for each interview were described (Appendix A-1 provides a summary of these items). We tried to leave the interviews as open as possible. The interviews lasted from about one hour to almost two hours.

### **Multiple field study phase**

The multiple field study phase aimed at answering the following questions: ‘What is the influence of the level of uncertainty upon the relationship between accountability and organizational performance?’ (research question 3) and ‘What are the factors that municipal managers feel are important in enhancing their organizational performance?’ (research question 4). Furthermore, this phase aimed at developing instruments to measure ‘accountability’ and ‘uncertainty’, because we did not find appropriate instruments in the literature to measure these variables.

We expected that there would be great differences among the municipalities in characteristics that could be of great importance to the findings, such as the size of the municipality and the implementation of NPM reforms (e.g. type of performance evaluation). With respect to the size, four groups were distinguished: municipalities with a maximum of 20,000 inhabitants, with 20-50,000 inhabitants, with 50-100,000 inhabitants and with more than 100,000 inhabitants. In order to make a distinction between municipalities that implemented many NPM reforms and municipalities that did not, a two-step selection approach was followed. This approach was used in order to have a selection of municipalities that *implemented* and actually *used* NPM reforms and municipalities that did not.

The first step was to use a ‘reputation criterion’ to come to a selection of NPM and non-NPM municipalities, the second step to verify this selection by asking questions to the managers about the actual implementation of NPM reforms. In the first step, we looked for municipalities that could be considered ‘NPM municipalities’, that is that they implemented and used relatively many NPM reforms. This was done by asking experts<sup>6</sup> for suggestions and by searching for examples in Dutch public sector magazines<sup>7</sup>. This approach was also used for the ‘non-NPM municipalities’. We used this reputation criterion instead of a formal criterion (such as the use of output budgets) because we relied on the above mentioned sources to provide us with examples of municipalities that indeed implemented and used the reforms rather than municipalities that have just formally implemented them.

When a municipality was included in the sample, the managers of both departments were contacted by telephone. In each case the receptionist of the municipality was asked for the manager who was responsible for each department (the ‘department of civil affairs’ and the social security department). Almost all managers promised to participate in the research project. When participation was promised, a confirmation letter was immediately sent to the manager. Two weeks before the interview, a short questionnaire was sent, in which some basic questions were asked for, such as the number of employees in the department, the working experience of the interviewee, and two verification questions. The verification

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<sup>5</sup> Two of the interviewees are managers at a social security department, the other two are managers at a department for civil affairs.

<sup>6</sup> These experts were consultants and auditors from two important professional service organizations in the Netherlands, Deloitte & Touche Accountancy and Consultancy services and Cap Gemini Ernst & Young.

<sup>7</sup> Examples of these magazines are *B&G* and *Overheidsmanagement*.

questions checked whether a municipality indeed could be labeled as an NPM municipality. We asked the interviewees whether they agreed with the following propositions:

1. The 'principle of integral management' is implemented to a large extent within my municipality.
2. Heads of departments are held accountable for the performance of their departments.

In the Netherlands, one of the most important NPM reforms at municipalities was to give managers more comprehensive decision making authority. In most Dutch municipalities, in the past managers had to ask superiors or central departments for permission when they wanted to make such decisions about personnel or financial and legal aspects. Municipalities that implemented the 'principle of integral management' gave managers the authority to make decisions (to a certain extent) autonomously. Table 1 (panel A) shows that the level of 'integral management' is statistically significantly higher in NPM municipalities than in non-NPM municipalities, so managers in NPM municipalities have a more comprehensive authorization to make decisions than in non-NPM municipalities. It was expected that managers would be held more accountable for results at NPM municipalities than at their non-NPM counterparts. However, the actual extent to which managers are held accountable for the performance is just slightly higher in NPM than in non-NPM municipalities (refer to Table 1, panel B). Furthermore, additional analyses showed that there are no significant differences between the two groups with respect to the implementation of a decentralized organization structure and the budgeting system used. Formally, almost all municipalities used an organization structure (decentralized) and budgeting system (product budgeting), which are proposed by NPM. The results of our verification and the additional analysis confirm our expectation that indeed there are differences between the two groups in daily practice, whereas there does not seem to be a difference if we only look at formal criteria (whether or not implementing NPM reforms).

Prior to making the interviews, an interview protocol was drawn up (Appendix A-2 provides a summary of this protocol). Each interview was divided into two parts. In the first part of the interview open questions were posed. These questions had to do with the level of authorization of the managers, their accountability and their responsibilities. In the second part of the interview, closed questions were posed in the form of a questionnaire. The interviews were held in the period between September and October 2001 and each lasted for about one hour to one and a half hours. At each of the four NPM and the non-NPM municipalities, we interviewed the manager of the social security department and the manager of the department for civil affairs. However, at one (non-NPM) municipality both departments had the same manager. Therefore, the total number of interviews was fifteen.

### *Data analysis*

All interviews were recorded on tape<sup>8</sup> and transcribed. The interviews were then analyzed with Nudist (version 4) data analysis software, a Computer Assisted Qualitative Data Analysis Software (CAQDAS) package<sup>9</sup>. The advantages of using this package for the analysis (instead of using an ordinary Word processor such as Microsoft Word) were the following (Seale, 2000):

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<sup>8</sup> Due to technical problems one interview was not recorded. At one interview, the interviewee did not give permission to use the tape recorder. From both interviews, a report was made based on the notes of the researcher, the same day the interview was held.

<sup>9</sup> For an extended overview of the advantages and disadvantages of using CAQDAS for accounting research in general and for this project in particular, see Budding and Cools, 2003.

- This package made it possible to easily retrieve data in spite of the huge amount of data collected (in this project: approximately 450 pages of transcribed interviews)
- The package offered possibilities for data analysis, such as making word counts and coding of fragments.

An important step in the process of analyzing the data is the coding process (Miles and Huberman, 1994; Lillis, 1999). In this study, a “start list” of codes was created, based on the questions in the questionnaire and on the open questions which were included in the interview protocol. After the data was imported into the Nudist package, the text fragments were coded. The answers to the closed questions were coded with the number of the question. For example, the questions about the indicators that are used for holding managers accountable (the Reliance on Accounting Performance Measures construct) were coded Q1a (number 1.1) to Q1m (1.13). After the coding of the closed questions, the researcher looked for items that could be important for the research, but were not included in the “start list” of codes. These items were coded using a ‘Free node’. When such a free node was used for one interview, the other interviews were re-read and analyzed to discover whether such an item also appeared in that interview. At the moment the researcher had the feeling that all text fragments were appropriately coded, the free nodes were analyzed to see whether they could be fit into the main codes scheme. The main and the free codes are reported in Table 2.

In advance of the interviews, an interview protocol was drawn up. Each interview was divided in two parts: At the first part of the interview open questions were proposed. These questions had to do with the level of authorization of the managers, their accountability and their responsibilities. At the second part of the interview, closed questions were proposed in the form of a questionnaire. The interviewee was asked to read each question aloud and tell how he/she interpreted the question as well as their answer to this question.

### *III: Survey phase*

Based on the findings of the first two phases of this project, a questionnaire was constructed. This survey was sent out to the department of civil affairs and the social security department of all municipalities in the Netherlands in the period November 2002 till March 2003. The survey resulted in 236 usable responses, representing approximately 28% of these departments. The study design and method of this last phase are reported in chapter 7 of this paper.

## **3. Accountability and uncertainty in daily practice**

### *Accountability*

The first question the interviewees were asked was: Are you (or is the municipal manager) held accountable? All interviewees answered this question positively. However, almost everyone added that this is not done by evaluating managers on reaching of objectives and that a distinction has to be made between the different types of stakeholders (such as citizens and political superiors).

If accountability is not based on the evaluation of reaching objectives, what are managers held accountable for? Two experts stated that the most important criterion is that you have transparency. You have to make clear what the costs are. One of the experts said that people in the Municipal Council only want to know the costs. However, after this is known, nothing is done with that information.

There are at least six groups of stakeholders of the departments: 1. aldermen (including the mayor), 2. councilors, 3. municipal executives, 4. managing directors, 5. employees and 6. colleagues on the same hierarchical level. The first group of stakeholders consists of the aldermen, the political superiors of the managers. In Dutch municipalities, the alderman is politically responsible for the daily management of the department. Ter Bogt (2001; 2003) shows that aldermen focus on the activities and processes instead of on their outputs or outcomes.

In this phase we asked the interviewees whether they thought aldermen are interested in the management of the departments, and especially in the cost consciousness of the managers. All four municipal managers stated that their alderman was hardly or not at all interested in this and that aldermen do not have an incentive to take an interest in these matters. For example one manager said:

*No politician is reelected because he is particularly thrifty.*

Two experts added that the functioning of the department can be used for political purposes. Sometimes, people who want to force an alderman to withdraw, question the performance of a department. These findings do not mean that aldermen are not interested in the functioning of the departments at all. Most importantly for the aldermen is that the budget is not overrun. Overrunning the budget, especially when the municipal council is not informed on time, can result in enormous problems for the alderman. Furthermore, some interviewees stated that managers are evaluated by the aldermen on realizing *specific* (extraordinary) projects, such as the realization of a project in which organizations cooperate in helping citizens to find employment.

The second group of stakeholders consists of the councilors. Although sometimes there are questions in the municipal council about the functioning of the departments, there is no structural interest in the efficiency and effectiveness. One of the interviewed experts said about the interest of councilors in efficiency and effectiveness:

*... one is not there (in the municipal council) to make a profit.*

The third group of stakeholders is formed by the Municipal Executives. In most municipalities these persons are the highest ranked managers. The interviews with the managers indicated that they (the heads of departments) only had to deal with the Municipal Executive when there were severe problems.

The fourth group consists of the direct superiors of the managers, the managing directors. All interviewees stated that these persons should be and indeed are interested in the functioning of the departments. For example, one expert answered on the question whether managing directors care for efficiency and effectiveness:

*Yes, they do. I think it is in the nature of managing directors to be interested in such things.*

The fifth group of stakeholders is formed by the employees of the manager. This group does not seem to be very interested in operational management. As one manager stated it:

*Generally, on the part of the employees, there is very little interest. What you see is that the workload of the employees of the social security department is quite heavy. And in such a situation, you see that people direct their attention quite severely to their own core business and that they can or are hardly willing to be concerned with – for instance - operational management, management, efficiency gains, developments and other things.*

The sixth group of stakeholders was not referred to in the interview protocol, but was mentioned spontaneously by some interviewees, i.e. other managers on the same hierarchical level. It was striking that these interviewees talked very enthusiastically about the interest of other managers in the functioning of their own department.

### *Uncertainty*

In the second part of the interview we asked the manager/expert about impediments to accountability. We expected that especially uncertainties in the (political) environment could be an important impediment, because due to these uncertainties managers could be held accountable for results that are not under their control.

Four types of such environmental uncertainties were mentioned. As expected from previous research (Budding, 1997), the actions of the *central government* were suggested to be the most important source of uncertainty. All managers mentioned this uncertainty. A second type of uncertainty, especially for the social security departments, are uncertainties due to *cooperation* with other organizations outside of the municipality. The third type of uncertainty is uncertainty stemming from *customers*. The uncertainty stems from the fact that one does not know in advance the demand for services for a certain period, as well as in the changing composition of the customers. The fourth type of environmental uncertainty stems from *local politics*, but the interviewees stated that the unpredictability of this type of uncertainty is quite limited.

In addition to environmental uncertainty, two other types of impediments to being held accountable were mentioned. Two managers mentioned the fact that Dutch law offers far-reaching protection to civil servants. Therefore, it is difficult to dismiss employees who do not perform well. One expert stated that in his opinion the most important source of uncertainty depends upon the acceptance of a position (the tasks, responsibilities, etc.) by other people in the organization. Especially at organizations in a political environment, it is important to have backing from superiors.

## **4. Measuring accountability and uncertainty**

### *Construction and testing of measurement instruments*

Based on the conclusions of the orientation phase and a literature review, it was decided to follow the literature on Reliance on Accounting Performance Measures (RAPM). This conclusion was based on the finding that the managers themselves translated the concept of 'accountability' especially in terms of being accountable for results to their direct superiors, the managing directors. This accountability-relationship was felt to be most important and it was expected that the performance evaluation of direct superiors could be an incentive for performance improvements. The RAPM literature is exactly about this relationship between managers and superiors, and it analyzes the behavioral and organizational effects of using accounting information for the performance evaluation of subordinate managers (Hartmann, 2000). Furthermore, the RAPM literature is considered '..the only critical mass of empirical work in management accounting at present' (Brownell and Dunk, 1991). Rather than having to develop an entirely new framework for this research project, it was considered to be much more efficient to use insights (e.g. measurement instruments and findings) from the RAPM literature.

However, although the volume of research projects on RAPM is quite impressive, we were not able to find measurement instruments that were adapted to nonprofit or

governmental organizations. Therefore, in this study we have to adapt the main constructs and measurement instruments to the specific context of this study, governmental organizations.

With this research project, we aimed at deepening RAPM literature on another aspect as well: Although ‘uncertainty’ is considered to be a ‘central concept’ in contingency research, ‘... the current state of RAPM research does not allow the conclusion that the effects of uncertainty are well understood’ (Hartmann, 2000). In this research project, the political influences are especially expected to create an uncertain environment. As Anthony and Young (1994) state, there is ‘a wider variety of pressures on managers of public organizations than on managers of private ones, whether nonprofit or for-profit’. Therefore, the research object of this study enables us to gain more insights into the influence of uncertainty upon the effects of using accounting information for the performance evaluation of subordinate managers.

Taking these considerations into account, the following procedure was used in this project. First, we selected measurement instruments that were previously used by other researchers. In order to measure accountability for results, we selected the Reliance on Accounting Performance Measures (RAPM) instrument. For the measurement of uncertainty, we chose the Perceived Environmental Uncertainty (PEU) instrument. These instruments were constructed by Hartmann (1997), who built upon other important RAPM studies<sup>10</sup>. We adapted these instruments to a governmental context, based upon the first phase’s findings. The most important modifications resulted from the entirely different meaning of the concept ‘budget’ and the multiple sources of uncertainty from the political environment (Tables 3, 4 and 5 provide an overview of these instruments). In order to gain insight into the behavioral effects of being accountable for results, we also developed some questions for this study<sup>11</sup>. Appendix B provides information about the construction of these constructs.

In the second part of each interview the questionnaire was presented to the interviewee and he/she was asked to read every question aloud and to tell us how he/she interpreted the question. The interviewees were also encouraged to give comments. Although most questions were understood by the interviewees as intended, this test resulted in the modification of some questions. The interviewees were then asked to actually answer the question by giving a score. For all questions, we used a five point Likert-scale with a score of 1 for ‘no’ (low) and 5 for ‘very much’ (high). However, some managers preferred speaking about the topics of this study instead of filling in the questionnaire. Therefore, the number of respondents was twelve managers (eight managers at the NPM municipalities, four at the non-NPM municipalities, we have some missing data for individual questions).

\*\*\* Insert Table 3 about here \*\*\*

The first questions were about the indicators that are used for holding managers accountable (the RAPM construct). Table 3 shows that throughput indicators (items that have to do with daily management, such as handling the workforce) are used for holding managers accountable instead of output indicators (items that have to do with results and cost orientation). However, an important item for evaluation purposes concerns the managers’ concern with quality.

It was expected that the NPM municipalities would have a higher score on the items that were related to results or cost orientation (item b-cost consciousness, item g-not

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<sup>10</sup> The sources for the RAPM instrument were Hopwood (1972) and Otley (1978), and for the PEU instrument these were Govindarajan (1984) and Merchant (1990).

<sup>11</sup> The questions that were asked on this dimension are displayed in Table 7.

overrunning the budget and item h-meeting the goals with the agreed upon costs), because such items are expected to be more important points of interest in those municipalities that strive for reaching results at costlevels as low as possible. The average score on the item about the ‘concern with costs’ was indeed a little bit higher for NPM municipalities (3.9) than for non-NPM municipalities (3.6). For the other two items, the scores at the NPM municipalities are much lower than at their non-NPM counterparts, suggesting that at NPM municipalities (simply) not overrunning the budget is not considered to be so important. For the item about the ‘concern with quality’, there is little difference between the two groups.

The other items were expected to score higher for non-NPM municipalities than for NPM municipalities, because we expected throughput indicators to be more important at non-NPM municipalities for evaluation purposes. The results for these items are mixed. Some scores (items a,c and d) are indeed higher for the non-NPM municipalities. However, some scores are lower (items k and l) and for the other items (items e, i, j and m) the differences between the scores are minimal.

With regard to uncertainties, the interviewees were asked to give their opinion about the predictability of ten different sources of uncertainty (refer to Table 4, the higher the score, the more predictable). The most important sources of uncertainty are suppliers for goods (2.7), suppliers of services that have been contracted out (2.8) and the central government (3.0).

It was expected that the managers of NPM municipalities estimate the environment as less uncertain than their non-NPM counterparts, because we thought that they would pay more attention to the circumstances that could have an influence on their operational management. Contrary to expectations, the NPM municipalities scored lower, which means that they estimated the environment as more uncertain than their non-NPM counterparts. A possible explanation for this finding is that because of their greater attention to the external environment, managers in NPM municipalities are more aware of them. For example, a manager of a department for civil affairs at an NPM municipality, who plays an active role in discussions with the central government said:

*I never know what the central government wants. One counter for all government services, ready to handle your needs on the spot and at another time letting the customer come back twenty times because of fraud.*

The manager of the social security department at the same municipality stated more or less the same:

*They (the central government) are more or less predictable in the sense that you never know what will happen, but that goes without saying.*

\*\*\* Insert Table 4 about here \*\*\*

Just as in the orientation phase we also found in the multiple field study phase that the uncertainties that have the highest impact (refer to Table 5) are uncertainties stemming from the central government (4.4), changes in the clientele (4.3) and technological developments (4.2). The interviewees stated about the central government that ‘We just have to do what the government wants. There’s no discussion about that.’ and that ‘the law determines what we are doing’. The uncertainty from changes in the clientele was about social, economic and demographic trends. The impact of uncertainty stemming from technological developments was considered high because of the impact of information and communication technology for the operational management of the departments.

We expected beforehand that the impact of environmental uncertainties would be less for NPM municipalities than for non-NPM municipalities. We thought that NPM

municipalities would pay more attention to their planning & control instruments to get a grip on the organization, and therefore, they would be better able to respond to uncertain events. Table 5 shows that the scores are indeed higher for non-NPM municipalities than for NPM municipalities. The impact of the uncertainties stemming from the suppliers of goods and from operational bosses were even statistically significantly higher at the non-NPM municipalities than at their NPM counterparts.

\*\*\* Insert Table 5 about here \*\*\*

Another kind of uncertainty, with which the managers can be confronted, has to do with the tasks of the manager. Table 6 shows that generally managers see their own tasks as fairly uncertain (not routine) and the tasks of their employees are certain (routine). Note that the higher the score, the less uncertain this item is. With regard to the difference between NPM and non-NPM municipalities, the table shows mixed results.

\*\*\* Insert Table 6 about here \*\*\*

## **5. The effects of being accountable**

In this research project, no fully worked out framework was used, in order to remain as open as possible for diverse explanations of why being held accountable could lead to performance improvements. Instead, we formulated a number of questions about the behavioral effects of being accountable for results. Some of these questions were built upon underlying hypotheses of the RAPM literature. In the multiple field study phase of this research project, the managers were asked to give their score on and interpretation of these questions.

\*\*\* Insert Table 7 about here \*\*\*

The results show that managers are positive about making and complying with agreements and about providing more transparency in the results of the department. When managers are held more accountable and/or responsible, their incentive to improve efficiency is greater.

We expected beforehand that managers in NPM municipalities would be more enthusiastic about making results transparent (item a) and about making agreements about responsibilities (item c) than the managers in the non-NPM municipalities. However, the scores on these items are higher for the non-NPM municipalities than for their NPM counterparts. One explanation for this can be that greater improvements were expected than actually were realized. The statements of the interviewees confirm this explanation. The managers at the NPM municipalities especially made more reservations about the advantages of providing more insight. They stated, for example, that ‘performance indicators must not be a goal in itself’ and that ‘the performance does not depend upon providing insight into performance indicators’. At the same time, their non-NPM counterparts said: ‘it helps enormously’ and ‘it is fun to provide those insights’.

The results of the proposition about the role of the budget (item b) confirm our previous finding (refer to item g at Table 3), that managers in non-NPM municipalities see budgets as a more important constraint than their counterparts in NPM municipalities. At NPM municipalities not overrunning the budget is not a goal in itself. For example, two managers at NPM municipalities made the remark that instead of worrying about the budget, attention should be paid to the relationship between cost and quality. Three other managers of this group stated that if one has a good plan, then one should confidently ask for a higher budget. However, the results of a proposition about overspending (item e) seem to contradict

this finding. All managers at the non-NPM municipalities share the opinion that overspending due to unexpected events is not problematic as long as a good explanation can be given, whereas the managers at the NPM municipalities support this claim to a lower extent. Interviewees in the NPM group made the remark that it is important how uncertainties are dealt with within the organization. Sometimes unexpected events can be used to create a political scandal. Furthermore, it is important to know how often such unexpected events occur (not too often) and at what moment you report the unexpected event.

Most interviewees agree with the statement that the importance of the budget has increased in recent years (item f). The enthusiasm for introducing performance-related pay is moderate (item g) and being paid related to the performance is not very important for the interviewees themselves (item h). However, there is a difference here between the NPM and the non-NPM municipalities. The managers in the NPM group are more enthusiastic about performance-related pay than the managers in the non-NPM group. This result suggests that non-NPM municipalities are still in the phase of developing more basic planning & control-instruments, whereas the managers in the NPM municipalities are now looking forward to reach further improvements, such as introducing performance-related pay.

#### *The influence of uncertainty*

From the questions about environmental uncertainty (PEU), it became apparent that managers are confronted with uncertainties. However, uncertainties do not have to become a severe problem (refer to item e in Table 7). As long as good explanations can be given, overspending due to unexpected events does not have to be problematic for managers. However, we also found that organizational conditions are important, such as the way unexpected events are handled by the manager and his superiors. Furthermore, it became apparent that the specific characteristics of the nature of the unexpected event plays an important role. In an interview with a manager of a social security department that had just had to deal with one of the greatest catastrophes in the Netherlands in the last decade, the question was posed how the employees experienced unexpected events in terms of their work motivation and he answered:

*It depends on the nature of the event. In case of a catastrophe such as the one we just had it raises no discussion at all. They have worked there day and night. .... Nothing was too much for the employees. On the other hand, if it is experienced as a political whim by the people, does that alderman have to disturb or that councilor gain publicity, well, I am not available for that! Such things happen.*

#### *Other performance improving circumstances*

Moreover, a special form of uncertainty seems to be an incentive for performance improvements. At one municipality, the manager of the department of civil affairs was held accountable for the funding of his unit. By means of tariffs he had to provide his own funds and when he needed additional funds, he had to bargain for them. This interviewee was enthusiastic about this procedure.

During the analysis of the data from the multiple field study phase and the orientation phase, another incentive for performance improvement became apparent. In some municipalities a sphere of a 'game' is created with regard to budgeting and realizing goals. For example, one manager said about the municipality where he worked:

*It is a game. And I perceived myself to be an entrepreneur for the benefit for the community. I had to do a job for the council. And I want to do that properly. I want to do that in a way that is sensible, that provides good quality for the customers. And to show the politicians that I did a good job, too. And financially attractive. That just became a sport, also to the people on the shop floor. I enjoyed working there very*

*much, although it gave rise to a lot of conflicts. It should be possible to organize that (such as situation) here also.*

In addition to creating a sphere of a 'sports game' with regard to budgeting, such a sphere could exist with regard to other aspects as well. For example, one manager stated about management:

*In that sense, a municipality looks like a football club. It strongly depends on the people that are involved in it.*

To analyze this further, and see whether there are differences between non-NPM and NPM municipalities, a word count was done on words that were expected to reflect a results-oriented organizational climate. It was expected that in cases where the interviewees frequently used these key words during the interview, they also considered these items to be important in daily practice.

\*\*\* Insert Table 8 about here \*\*\*

Table 8 shows that the number of used key words is higher at NPM municipalities than at non-NPM municipalities. However, the average number of hits per interview (in which the key words are used) differs less. The most important difference is the number of hits for the word 'customers'. This can be explained by just one municipality. In the two interviews with the managers of this municipality (well known as an NPM municipality in the Netherlands), the word 'customers' was used 11 times. Therefore, this analysis only shows weak evidence for a significant difference in (results-oriented) language among both groups of municipalities.

## **6. Development of hypotheses**

In the first two phases of this research project it became apparent that managers in Dutch municipalities are held accountable. The managers themselves stated that they are mainly held accountable by their direct superiors, the operational managers. To a less extent they are also held accountable by their employees or their colleagues on the same hierarchical level. However, they are hardly held accountable for results and efficiency of operations. Instead, items such as 'the attitude of the manager toward his work and the organization' and 'the attitude of the manager to handle his men', are considered important. In the first two phases of this project, we found some differences between the NPM and non-NPM municipalities. However, most of these differences were not statistically significant different. Only the item 'How well I dialogue with my political boss' scored statistically significant higher at the non-NPM municipalities than at the NPM municipalities. In the survey phase, we wanted to check whether our hypothesis that there are differences between NPM and non-NPM municipalities holds in a much greater sample. Because we cannot find any arguments to reject our hypothesis, we formulate the hypothesis as follows:

H1 Managers at NPM municipalities are evaluated on financial criteria to a larger extent than their non-NPM counterparts.

In this project, we want to find out under what circumstances holding managers accountable for results is appropriate and therefore, leads to improved organizational performance. In the RAPM literature, there is a debate about the question how the appropriateness of RAPM

should be measured. In this paper, we use as outcome variables Goal Clarity (GC) and Agreement on Evaluation Criteria (AEC) as well as some efficiency indicators. The choice for GC was made because of the arguments that we wanted (among other things) to replicate the findings of former RAPM studies (especially those of Hartmann (1997)) and we think that an important advantage of RAPM that is can take away 'lack of direction' problems. The arguments to use the AEC construct were also the replication argument and our opinion that one of the most important things to take into account analyzing the appropriateness of APM is to pay attention to the tension which is associated with '...the degree of agreement a manager has with the criteria being used to evaluate his performance.' (Otley, 1978).

Based on the RAPM literature and the findings from the first two research phases, we come to four groups of circumstances that have an influence upon the relation between holding managers accountable and organizational performance. These four groups are: 1. Environmental Uncertainty, 2. Task Uncertainty, 3. Funding Uncertainty/Funding Responsibility and 4. Organic Processes.

#### *Environmental Uncertainty (EU)*

Managers feel confronted with many uncertainties. Some of these have to do with the environment of the departments, such as uncertainties stemming from the clientele and the behavior of suppliers. These uncertainties are more or less the same as in a private sector environment (e.g. Buchko, 1984; Milliken, 1997). It was expected that uncertainties stemming from the political environment would also be important. However, it became apparent that only the behavior of the central government was considered uncertain. Uncertainties from local politics and other managers were moderate, but this finding can perhaps partly be explained by the choice of the departments of social security and the department of civil affairs. Because these uncertainties are comparable to public sector organizations, we follow the arguments that are used in RAPM literature to analyze the influence of EU on the relation between RAPM and the outcome variables GC and AEC.

In RAPM literature it is stated that budgets and the associated APM may function as a buffer against too much environmental uncertainty. We find mixed evidence for this hypothesis. Groot & Budding (2003) found that NPM municipalities have higher tariffs for some services, which could be explained by a 'buffer' of managers at NPM municipalities for uncertain events. At the departments of this project, we found that the managers have to do with uncertainties that have an influence on the functioning (and the goal realization) of the departments, such as the behavior of clientele and external contractors. Furthermore, goals can change as a result of the behavior of the central government. However, managers said that they see handling these uncertainties as a challenge. Therefore, we formulate the hypothesis in the null-form:

- H2a The level of GC is not related with the level of EU.
- H2b The effect of RAPM on GC is not affected by the level of EU.

With respect to the main effect of EU on AEC we expect that EU has a negative influence on AEC. For higher levels of EU, there is a risk that a manager is evaluated on criteria that are beside his control (controllability argument). Therefore, we formulate the main effect hypothesis as follows:

- H2c AEC is lower for higher levels of EU.

In RAPM literature there is mixed evidence with regard to the (interaction) effect of EU on the relation between RAPM and AEC. One argument is that for higher levels of EU, managers will experience it as positive to be evaluated on more objective (financial) criteria (objectivity argument). On the other hand, the controllability problem is a larger problem in case financial evaluation criteria are used.

At the first two phases of this project, we found differences between the managers at non-NPM municipalities and NPM municipalities. For the non-NPM municipalities, the managers see making agreements about responsibilities as a positive constraint of those things they can be held accountable for. This supports the objectivity argument. Furthermore, the score for the proposition that overspending does not have to be a problem, was extremely high (5.0 on a 5-point Likert scale) at these municipalities, contradicting the second (controllability) argument. Therefore, we formulate the hypotheses for the non-NPM municipalities as follows:

H2d The effect of RAPM on AEC is more positive for higher levels of EU at non-NPM municipalities.

For the NPM municipalities, we found that the managers also supported these questions, but to a lower extent. These managers did not share the opinion of their non-NPM counterparts that being accountable is (always) wanted and unproblematic. Therefore, we formulate the hypothesis as follows:

H2e The effect of RAPM on AEC is not affected by the level of EU at NPM municipalities.

#### *Task Uncertainty (TU)*

Managers are also confronted with uncertainties that stem from the tasks they perform. Task uncertainty may lead to confusion, and not clarity, over the way in which the budget targets should be attained (Hirst, 1987) Therefore, we hypothesize a negative association between TU and the outcome variables:

H3a GC is lower for higher levels of TU.

H3b AEC is lower for higher levels of Higher TU.

With respect to the interaction effect on GC, RAPM literature gives mixed evidence: On the one side, the problem that task uncertainty leads to confusion over the way in which the budget targets should be attained, is bigger in case financial evaluation criteria are used. On the other side, some authors state that the accounting performance measures are positively adding to the structure of the working environment, in terms of providing clear and specific objectives. We do not know which effect is stronger and therefore formulate the hypothesis in null-form:

H3c The effect of RAPM on GC is not affected by the level of TU.

For AEC, we expect that task uncertainty will lead to job related tension, because managers are disagreeing with the potentially incomplete and irrelevant and uncontrollable accounting performance measures (Hirst, 1983). Therefore, we formulate the hypothesis as follows:

H3d The effect of RAPM on AEC is more negative for higher levels of TU.

*Funding Uncertainty (FU) and Funding Responsibility (FR)*

Funding Uncertainty (FU) refers to a manager not being sure whether his department can get enough resources for operations. We expect that this uncertainty negatively relates to GC because FU can bring tensions that a manager may not have enough resources to reach the goals. As a result, the manager can be confused which goals he has to reach. Furthermore, this can also bring tensions at the performance evaluation. Combined with using financial evaluation criteria, we expect this effect to be even more negative. Therefore, we formulate the hypotheses as follows:

- H4a GC is lower for higher levels of FU.
- H4b AEC is lower for higher levels of FU.
- H4c The effect of RAPM on GC is more negative for higher levels of FU.
- H4d The effect of RAPM on AEC is more negative for higher levels of FU.

In one municipality a special form of funding uncertainty was introduced as a mean to make managers more responsible for their own funding. The starting point at this municipality was that the department had to provide his own funding by external tariffs and that the manager could bargain about a budget from general funds of the municipality. The manager considered this process positively. Previous research (Geiger & Ittner, 1999; Cavalluzzo, Ittner & Larcker, 1998) has also shown that the effects of this kind of funding uncertainty can be positively and lead to increased efficiency and more extensive use of management control for a wide variety of internal purposes. Therefore, we expect that funding uncertainty in terms of making managers responsible for their own funding has a positive influence on GC and AEC, both as a main effect and in combination with the use of financial evaluation criteria. This funding responsibility (FR) can only be created at the department of civil affairs of municipalities. These departments charge inhabitants for services they provide. Social security departments are not able to charge inhabitants or business for services they provide. Therefore, this kind of funding uncertainty can only be analyzed at departments of civil affairs.

- H5a GC is higher for higher levels of FR.
- H5b AEC is higher for higher levels of FR.
- H5c The effect of RAPM on GC is more positive for higher levels of FR.
- H5d The effect of RAPM on AEC is more positive for higher levels of FR.

*Organic Processes (DCC)*

The first two phases of this research gave support for other important organizational conditions as well. These conditions were not asked about, but were mentioned spontaneously by interviewees: *Organizational climate* was said to be of great importance by some of the interviewees. Previous research (Cavalluzzo & Ittner, 2004) supports this finding and has shown that a results-oriented organizational climate could lead to higher measurement system development, use and perceived benefits. In addition to the organizational climate, especially when the planning & control-process and the way of dealing with budgets are treated as a *sport game*, managers were very enthusiastic about improving operational management. Therefore, the plea of Hofstede (1967) to create a game spirit, considers more attention nowadays. Furthermore, the results of the first two phases show that structural and

communication processes within the organization are influential. Previous research (Chenhall & Morris, 1995) supports this finding and provided evidence that the combined effect of organic processes and management accounting systems is associated with superior organizational performance. In this project, we adapted the measurement instrument of Chenhall & Morris (1995) (see Appendix C). This construct was labeled Decision making & communication, Change and Culture (DCC). We expect the DCC will have a positive direct effect on the outcome variables as well as a positive interaction with RAPM.

- H6a GC is higher for higher levels of DCC.
- H6b AEC is higher for higher levels of DCC.
- H6c The effect of RAPM on GC is more positive for higher levels of DCC.
- H6d The effect of RAPM on AEC is more positive for higher levels of DCC.

## **7. Survey phase: Research method and sample**

### **Introduction**

At this phase of the research project, a questionnaire was sent to the social security department and the department of civil affairs of all Dutch municipalities. These departments were chosen because it was expected beforehand that the level of uncertainty would differ between these departments: It was expected that the level of uncertainty for the department of civil affairs would be quite limited and for the social security department quite high.

In the Netherlands, there are approximately 480 municipalities. So the total number of questionnaires would be theoretically 960. However, we made some corrections on this research sample. First, we excluded the four largest municipalities in the Netherlands (Amsterdam, Rotterdam, The Hague and Utrecht) because each of them has special legal, administrative and financial arrangements with the state that do not apply to other Dutch municipalities. Second, we excluded the departments that participated at earlier stages of this research project. We phoned all other municipalities and asked the name of the manager of the social security department and of the department of civil affairs. This way, we were informed that at some municipalities the manager of the social security department is also in charge of the department of civil affairs. At other municipalities, the tasks of the social security department are contracted out to another municipality or to an external organization at which several municipalities cooperate in executing the tasks on the area of social security (an 'Intergemeentelijke Sociale Dienst' or 'ISD'). This was the third correction we made. Based on these corrections, we came to a research sample of 841 departments.

The data were gathered in the period between November 2002 and April 2003. We sent three reminders. The first one was in the form of a Christmas card (December 2002). In January, we sent a second copy of the questionnaire. In February, the respondents received a fax message from us with a reminder. At the third and fourth contact moment, we asked the respondents to let us know why they perhaps did not want to fill in the questionnaire.

### **Sample characteristics**

The survey produced 236 usable responses, leading to a fairly high response rate of 28.1% (refer to Table 9). Furthermore, we received approximately 300 non-response postcards or faxes (35.7%). Totally, we got a response from 63.7% of all departments contacted.

Also at this stage of the project, we wanted to distinguish two groups of municipalities, namely NPM and non-NPM municipalities. Based on our finding of the second research phase, we used as a criterion the level of integral management: The NPM municipalities are those municipalities at which the manager answered positively on the question about the 'principle of integral management'. The non-NPM municipalities are those municipalities at which the managers answered neutral or negative on this question. This way, 123 (52.3%) were considered non-NPM municipalities and 112 (47.7%) NPM municipalities<sup>12</sup>. The variable 'principle of integral management' and non-NPM/NPM was not correlated with organizational characteristics, such as the organization structure and the budgeting system used and personal characteristics, such as the educational background. However, the answers on the question about integral management were significantly correlated (Pearson correlation of 0.410, significant at the 0.01 level) with a question about the level to which managers at this municipality feel accountable for results.

Although a department of a municipality can be considered as a business unit, it should be noticed that the average number of employees that are in the area of responsibility of the respondents is much lower than at other RAPM research projects. The average number at this project is 22.3, whereas the number is 79.0 at the project of Hartmann (1997). Furthermore, the average respondent can be portrayed as mid-aged (47.5), well educated and with a lot of experience with the organization (12.4 years) and the function (11.2 years). Appendix B provides background information about the manager, the department and the municipalities of the respondents.

### **Independent variables**

In this project five independent variables are identified: 1. Reliance on Accounting Performance Measures (RAPM), 2. Environmental Uncertainty (EU), 3. Task Uncertainty (TU), 4. Funding Uncertainty (FU) / Funding Responsibility (FR) and 5. Decision making & communication, Change and Culture (DCC). Appendix C gives an overview of the construction of the constructs.

The RAPM construct was based on the instrument of Hartmann (1997) and was adapted to a non-profit setting (Table 10-A gives descriptive statistics of this variable). The instruments for EU and TU were also developed by Hartmann (1997) and adapted for this study. The one item instrument for FU was developed for this study. From Table 10-B it follows that the coefficient- $\alpha$ 's for the instruments EU and TU were satisfactory and approximately the same as the  $\alpha$ 's of the original instrument of Hartmann (1997). The instrument for DCC was developed by taking the ten items of Chenhall & Morris (1995) and adding two additional items (see Appendix C). Factor analysis revealed that items loaded on three factors, which seemed to differentiate between Decision making & communication, Change and Culture aspects (refer to Table 10-C). Because of a high coefficient- $\alpha$  of 0.81 for the total construct, the items were used as a single construct<sup>13</sup>.

In order to check multicollinearity problems, a correlation analysis was made. Table 11 shows that the independent variables in this study are not correlated.

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<sup>12</sup> The cut-off between these two groups would be the same in case we used the median.

<sup>13</sup> After analysis of all 12 items, one item was removed (f).

## Outcome variables

In this project, we followed the RAPM literature and used Goal Clarity (GC) and Agreement on Evaluation Criteria (AEC) as outcome variables (cf. Hartmann, 1997). The instrument for GC was developed by Hartmann (1997) (see Appendix C). This instrument consists of items for goal specificity and role ambiguity. The coefficient- $\alpha$  for the goal specificity scale was 0.75<sup>14</sup>, for the role ambiguity scale 0.77<sup>15</sup>. The coefficient- $\alpha$  for the total construct was a satisfactory 0.84. The instrument for AEC was also developed by Hartmann (1997). Analysis showed a satisfactory coefficient- $\alpha$  of 0.89<sup>16</sup>. The managers were also asked to give a rate (on a scale from 1 to 10) for the functioning and performance of their own department and their own functioning and performance. Table 12a shows that the mean of both items is approximately the same. However, while managers sometimes give their department an unsatisfactory mark, this mark is never given for their own functioning. Furthermore, Pearson correlation analysis shows that these variables are statistically significant and positively correlated with the GC and AEC construct (refer to Table 13, except AEC and performance of the department).

We also used data obtained from the departments themselves (a second questionnaire that was sent to them) and from Statistics Netherlands (SN) to measure performance. These data consisted of information on: the number of employees, the costs (SN), the number of inhabitants (SN) and the number of services performed. We also included some questions about the cost allocation of the department in this questionnaire. Using this information, we calculated three indexes (refer to Table 12b):

- Number of employees per 10,000 inhabitants in the department of civil affairs (DCE)
- Costs per 10 inhabitants in the department of civil affairs (DCO)
- Number of employees per 10,000 inhabitants in the department of civil affairs (SSE)
- Costs per inhabitant in the department of civil affairs (SSO)

Finally, we developed a more comprehensive performance indicator using Data Envelopment Analysis (DEA). This indicator represents an efficiency score (0-100%) in which the performance of each department is compared with the best performing municipality on each performance indicator. In this research, we used the CCR model (Charnes et al., 1978) because we did not expect scale effects<sup>17</sup>.

Pearson correlation analysis shows that the DCE variable (number of employees per 10,000 inhabitants in the department of civil affaires) is statistically significant and negatively correlated with the GC construct and one of the self-rated performance indicators (refer to Table 13).

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<sup>14</sup> The coefficient  $\alpha$  for this scale was 0.70 in the study of Hartmann (1997).

<sup>15</sup> The coefficient  $\alpha$  for this scale was 0.73 in the study of Hartmann (1997).

<sup>16</sup> The coefficient  $\alpha$  for this scale was 0.89 in the study of Hartmann (1997).

<sup>17</sup> Research by Deloitte has shown a U-form in the costs of municipalities: The middle size municipalities are most efficient, whereas small and big municipalities have higher costs.

## 8. Survey phase: Findings

At the multiple field study (case study) phase of this project, we found differences between the NPM and non-NPM municipalities with regard to evaluation criteria. This finding is confirmed by the results of the survey. Table 14 shows that managers at NPM municipalities are evaluated to a larger extent on financial criteria than the managers at their non-NPM counterparts: All three financial items (b, g and h) are statistically significant higher at the NPM municipalities compared to the non-NPM municipalities, whereas from the non-financial items only five of the ten non-financial items scored statistically different.

In this paper, we want to find out whether managers are indeed motivated by output measures. In order to analyze the influence of all dependent variables, we conducted a backward regression analysis. Table 15 shows that regression models in which RAPM is left out are most efficient<sup>18</sup>. Therefore, we conclude that performance improvements (in terms of GC and AEC) can not be explained by greater emphasis on financial evaluation criteria alone (high RAPM). Furthermore, the results show that TU and DCC seem to have the highest influence on the outcome variables.

Because we wanted to analyze the influence of each contextual variable on the outcome variables separately, we conducted a linear regression analysis for each contextual variable. We distinguished two models. The first model is the main effect model, with the contextual variable and RAPM as dependent variables. The second model is the interaction model, with the main effects and the interaction variable (refer to Table 16).

For the NPM municipalities the results are rather straightforward: Low TU and high DCC are both associated with high levels of GC and AEC. This effect is stronger when this is combined with an emphasis on financial evaluation criteria (high RAPM).

For the non-NPM municipalities, low TU is also associated with high levels of GC and AEC. However, this effect is (partly) cancelled out by using financial evaluation criteria (high RAPM). This suggests that using financial evaluation criteria can solve some problems resulting from task uncertainty. As expected, high DCC is also associated with higher levels of AEC. For GC we found no result. The relationship between RAPM and AEC is negatively affected by DCC. Therefore, the positive influence of DCC on AEC is (partly) canceled out by using financial evaluation criteria, suggesting a loss of direction for managers in case of a combination of loose coupling (high DCC) and tight coupling (high RAPM).

The results show a weak association between the level of FU and the outcome variables. At the NPM municipalities (and for all municipalities), higher funding uncertainty is associated with lower GC. For AEC we found no result.

The results for EU are remarkable: The influence of EU on the relationship between RAPM and the performance variables (GC and AEC), was not statistically significant, except a

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<sup>18</sup> In Appendix D the results of these backward regression analysis are displayed for the non-NPM and the NPM municipalities separately. The main difference between these analyses and Table 15 is that the Adjusted R<sup>2</sup> for the non-NPM municipalities is much lower (4.6%-6.5% for GC and 21.1%-21.5% for AEC) than the percentage for all municipalities, whereas this percentage is much higher for the NPM municipalities (36.3%-38.0% for GC and 24.0%-26.7% for AEC).

negative influence at the non-NPM municipalities (and for all municipalities) for AEC. We think that these results can be explained by the multidimensional composition of the EU construct. Therefore, additional analysis is needed to pay more attention to the diverse sources of environmental uncertainty.

A special form of funding uncertainty is to make managers partly responsible for the funding of the department (Funding Responsibility, FR). This can only be created at departments of civil affairs. These departments charge inhabitants for services they provide. social security departments are not able to do so. Table 17 shows that funding responsibility is weakly associated with higher levels of AEC at the departments of civil affairs. However, this result only appears when all municipalities are analyzed and no distinction is made between a non-NPM and NPM group.

## **9. Discussion and conclusions**

In Table 18 an overview is provided of the hypotheses and the results in this research project. The table shows whether the contextual variables are positively associated (+), negatively (-) or not associated (N) with the outcome variables. In case different outcomes are hypothesized or were found for the NPM and non-NPM municipalities, three groups are distinguished: All municipalities, the non-NPM municipalities and the NPM municipalities.

From this table it follows that there are much more differences between the non-NPM municipalities and the NPM municipalities than we hypothesized. Therefore, more attention has to be paid to the distinction between these groups. Generally, the results confirm the hypotheses about EU, TU and DCC. However, the results provide only weak evidence of the hypothesized negative influence of FU and positive influence of FR.

Based on the findings in this research project, we conclude that in order to improve organizational performance (in terms of GC and AEC), management should take care of adequate organic processes. When this is combined with using financial evaluation criteria, superior organizational performance can be realized. However, this claim also depends upon the task characteristics: Higher TU is associated with less appropriateness of RAPM, i.e. using financial evaluation criteria in high task uncertainty situations will lead to dysfunctional effects. There seems to be a kind of trade off between the advantages of using financial evaluation criteria and the dysfunctional effects of using these in situations of task uncertainty.

In sum, positive results of using the recommendation of NPM to hold managers accountable for results depend on the organic processes and the task characteristics of the department. However, in low task uncertainty situations and adequate organic processes, superior organizational performance can be realized at governmental organizations by making managers accountable for results.

## Tables

Table 1: Verification questions<sup>†</sup>: Integral management and accountability for performance

	Non-NPM (n=4)	NPM (n=8)
<i>Level of integral management</i>		
Max. 20,000 inhabitants	No data	4.0
20-50,000 inhabitants	2.0	3.5
50-100,000 inhabitants	3.0	3.0
More than 100,000 inh.	3.0	4.5
Average <sup>††</sup>	2.5 <sup>**</sup>	4.0 <sup>**</sup>
<i>Accountability for performance</i>		
Max. 20,000 inhabitants	No data	4.0
20-50,000 inhabitants	3.0	3.0
50-100,000 inhabitants	4.0	4.0
More than 100,000 inh.	4.0	4.5
Average <sup>††</sup>	3.6	3.9

<sup>\*\*</sup> Differences are significant at  $p < 0.05$  (Mann-Whitney U-test)

<sup>†</sup> For these questions, a five point Likert scale is used, with a score of 1 for ‘very much disagree’ and 5 for ‘very much agree’.

<sup>††</sup> The average is calculated by summing all scores of individual interviewees and dividing by the number of interviewees that answered these questions (not all interviewees answered these).

Table 2: Nudist data coding tree

Main codes:	
(1)	/RAPM
(2)	/Experience
(3)	/PEU – Influence (The influence of the uncertainty, perceived by the interviewee)
(4)	/PEU - Predictability (The predictability of the different sources of uncertainty)
(5)	/TU (Task Uncertainty)
(6)	/Consultation
(7)	/Reports
(8)	/Authorization
(9)	/Accountability
(10)	/Background
Free nodes:	
(F 1)	//Free Nodes/game of budget control
(F 2)	//Free Nodes/controllability problems
(F 3)	//Free Nodes/personality of managers
(F 4)	//Free Nodes/transparency
(F 5)	//Free Nodes/co-operation
(F 6)	//Free Nodes/performance measurement
(F 7)	//Free Nodes/one owns judgment
(F 8)	//Free Nodes/risk aversion
(F 9)	//Free Nodes/report to the department (the social security department)
(F 10)	//Free Nodes/the attitude of politicians towards operational management
(F 11)	//Free Nodes/operational management
(F 12)	//Free Nodes/culture
(F 13)	//Free Nodes/combination of functions
(F 14)	//Free Nodes/rationality of management
(F 15)	//Free Nodes/conduct of controlling-department
(F 16)	//Free Nodes/entrepreneurship and innovation
(F 17)	//Free Nodes/funding uncertainty

Table 3: RAPM

How much importance does your superior, when evaluating your performance, attach to:	Non-NPM	NPM	Average
a. How well I cooperate with my colleagues	4.5	4.3	4.3
b. My concern with costs	3.6	3.9	3.8
c. How well I get along with my operational boss	4.3	3.4	3.7
d. How well I get along with my political boss	4.2**	3.4**	3.7
e. How much effort I put into the job	3.8	3.9	3.8
f. My concern with quality	4.2	4.3	4.2
g. Not overrunning the budget	3.7	3.3	3.5
h. Meeting the goals at the amount of the agreed upon costs	4.0	3.1	3.4
i. My attitude toward my work and the company	4.3	4.3	4.3
j. The level to which I succeed to display initiatives that lead to a good image of the municipality	4.0	4.0	4.0
k. The level to which I succeed to display initiatives that lead to a good image of my political superior	3.3	3.6	3.5
l. The level to which I succeed to display initiatives that lead to a good image of my operational superior	2.5	3.1	3.0
m. My ability to handle my subordinates	4.5	4.4	4.4

\*\* Statistically significant differences at  $p < 0.05$  (Mann-Whitney U-test)

Table 4: PEU-Predictability

Predictability of.....	Non-NPM	NPM	Average
a. Changes in the clientele	3.5	3.3	3.4
b. Technological developments in your profession do have an impact on your operational management	4.1**	3.1**	3.5
c. Behavior and/or strategies of suppliers of contracted out services	3.0**	2.7**	2.8
d. Behavior and/or strategies of suppliers for your own goods	3.2	2.5	2.7
e. Behavior and/or strategies of central government with regard to job responsibilities	3.2	2.9	3.0
f. Behavior and/or strategies of central government with regard to the way services have to be performed	3.5	2.9	3.1
g. Behavior and/or strategies of local politicians with regard to job responsibilities	4.0	3.1	3.4
h. Behavior and/or strategies of local politicians with regard to the way services have to be performed	4.0	3.3	3.5
i. Behavior and/or strategies of operational bosses with regard to job responsibilities	4.0	3.9	3.9
j. Behavior and/or strategies of operational bosses with regard to the way services have to be performed	4.0	3.9	3.9

\*\* Statistically significant differences at  $p < 0.05$  (Mann-Whitney U-test)

Table 5: PEU-Influence

Impact on functioning and performance of	Non-NPM	NPM	Average
a. Changes in the clientele	4.8	4.1	4.3
b. Technological developments in your profession do have an impact on your operational management	4.5	4.0	4.2
c. Behavior and/or strategies of suppliers of contracted out services	4.0	2.8	3.3
d. Behavior and/or strategies of suppliers for your own goods	4.5**	3.5**	3.8
e. Behavior and/or strategies of central government with regard to job responsibilities	4.5	4.4	4.4
f. Behavior and/or strategies of central government with regard to the way services have to be performed	4.5	4.1	4.3
g. Behavior and/or strategies of local politics with regard to job responsibilities	3.5	3.4	3.5
h. Behavior and/or strategies of local politics with regard to the way services have to be performed	3.5	3.1	3.3
i. Behavior and/or strategies of operational bosses with regard to job responsibilities	3.8*	2.5*	2.9
j. Behavior and/or strategies of operational bosses with regard to the way services have to be performed	3.8*	2.4*	2.8

\* Statistically significant differences at  $p < 0.10$  (Mann-Whitney U-test)

\*\* Statistically significant differences at  $p < 0.05$  (Mann-Whitney U-test)

Table 6: Task Uncertainty

.	Non-NPM	NPM	Average
a. My tasks are the same from day-to-day	1.3	2.0	1.8
b. In general I would say that my work is fairly routine	2.0	1.7	1.8
c. People in this unit do about the same job in the same way most of the time	3.5	3.3	3.4
d. Basically, unit members perform repetitive activities in doing their jobs	4.0	3.1	3.5
e. My duties are repetitious	3.8**	2.4**	2.9
f. There is a clearly know way to do the major types of work I normally encounter	3.0	2.6	2.7
g. There is a clearly defined body of knowledge of subject matter which can guide me doing my work	2.5	3.3	3.0
h. There is an understandable sequence of steps that can be followed in doing my work	2.8	2.4	2.6
i. To do my work, I can rely on established procedures and practices	3.8	2.9	3.2

\*\* Statistically significant differences at  $p < 0.05$  (Mann-Whitney U-test)

Table 7: Effects of being accountable

	Non-NPM	NPM	Average
a. I feel inspired to improve the efficiency of the operational management by providing more insight into the results of my own department.	4.8	4.3	4.4
b. I see the maximum available budget as an important constraint. I will strive to keep within this budget and not to ask for an increment.	4.8**	3.6**	4.0
c. I see making agreements about responsibilities as a positive constraint of those things I can be held accountable for.	4.5	4.0	4.2
d. In case I am called into account for financial responsibilities, I manage to look for ways to make savings and/or to increase funds.	3.8	4.2	4.0
e. Overspending due to unexpected events isn't problematic as long as a good explanation can be given.	5.0**	4.0**	4.3
f. The importance of the budget has increased in recent years.	4.5	4.1	4.3
g. It is time that performance related pay is introduced.	3.5	3.9	3.7
h. Being paid related to my performance is very important to me.	3.0	3.5	3.3

\*\* Statistically significant differences at  $p < 0.05$  (Mann-Whitney U-test)

Table 8: Number of key words

Text search on:	Non-NPM	NPM
- Game	3 hits (3 interviews)	4 hits (2 interviews)
- Budget	21 hits (5 interviews)	31 hits (7 interviews)
- Quality	11 hits (5 interviews)	20 hits (8 interviews)
- Efficiency	1 hits (1 interview)	0 hits
- Customers <sup>†</sup>	12 hits (5 interviews)	24 hits (7 interviews)
- Objectives	3 hits (2 interviews)	2 hits (2 interviews)

<sup>†</sup> Including the word 'customer-oriented'

Table 9: Response rate per department and NPM/non-NPM

Department	Non-NPM municipality	NPM municipality	Total number per department
department of civil affairs	67	76	144 <sup>19</sup>
social security department	52	34	86
ISD	4	2	6
Total	124	112	236

<sup>19</sup> One manager of a department of civil affairs did not respond the question about the 'level of integral management'. Therefore, here one case is missing and the total number of managers of departments of civil affairs that sent the questionnaires back was 144.

Table 10: Descriptive statistics of Independent variables

	mean	Std. Dev.	Theoretical range		Actual range		$\alpha$	n
			Min.	Max	Min.	Max.		
<b>A. RAPM</b>	0.32	0.06	0.07	1.67	0.15	0.56	n.a.	226
<b>B. Uncertainties</b>								
Environmental Uncertainty (EU) <sup>20</sup>	2.74	0.31	1.00	5.00	1.93	3.64	0.71	226
Task Uncertainty (TU) <sup>21</sup>	3.23	0.55	1.00	5.00	1.67	4.78	0.84	233
Funding Uncertainty (FU)	2.13	0.86	1.00	5.00	1.00	5.00	n.a.	234
<b>C. DCC construct</b>								
Decision making & communication	3.70	0.57	1.00	5.00	2.00	5.00	0.80	235
Change	3.20	0.55	1.00	5.00	1.50	4.75	0.65	235
Culture	3.43	0.61	1.00	5.00	1.50	5.00	0.39	234
Total DCC <sup>22</sup>	3.45	0.45	1.00	5.00	2.22	4.68	0.81	233

Table 11: Correlation matrix of Contextual variables

Pearson correlation coefficients (p values), n= 197-234	EU	TU	FU	DCC
EU	-	0.074 (0.304)	-0.053 (0.456)	-0.028 (0.693)
TU	0.074 (0.304)	-	0.020 (0.762)	-0.059 (0.371)
FU	-0.053 (0.456)	0.020 (0.762)	-	-0.100 (0.129)
DCC	-0.028 (0.693)	-0.059 (0.371)	-0.100 (0.129)	-

<sup>20</sup> The coefficient  $\alpha$  of the instrument of Hartmann (1997) was 0.70.

<sup>21</sup> The coefficient  $\alpha$  of the instrument of Hartmann (1997) was 0.87.

<sup>22</sup> The coefficient  $\alpha$  of the 10-item instrument of Chenhall & Morris (1995) was 0.83. For the same 10 items, the coefficient  $\alpha$  at this study is 0.73.

Table 12a: Descriptive statistics of Outcome variables

	mean	Std. Dev.	Theoretical range		Actual range		$\alpha$	n
			Min.	Max	Min.	Max.		
Goal Clarity (GC)	3.73	0.50	1.00	5.00	2.03	5.00	0.84	235
Agreement on Evaluation Criteria (AEC)	3.69	0.58	1.00	5.00	1.33	5.00	0.89	223
Performance – Department (PD)	7.38	0.71	1.00	10.00	5.00	9.00	-	235
Performance – Individual (PI)	7.30	0.60	1.00	10.00	6.00	10.00	-	235

Table 12b: Descriptive statistics of Outcome variables

	mean	Std. Dev.	Theoretical range		Actual range		n	Sk	Kurt
			Min.	Max	Min.	Max.			
DCA: Employees per Inhabitant (10,000) (DCE)	2,85	1,16	0	$\infty$	1,16	7,34	95	2,0	4,3
DCA: Costs per inhabitant (10) (DCO)	221	73	0	$\infty$	16	483	123	1,0	2,5
DCA: DEA efficiency score (input: number of employees) (DEA1)	54,8	18,8	0	100	3,9	100	95	-0,3	0,9
SSD: Employees per inhabitant (10,000) (SSE)	6,69	2,73	0	$\infty$	2,66	17,87	54	1,7	4,6
SSD: Costs per inhabitant (SSO)	231	137	0	$\infty$	97	794	53	2,5	7,2

Table 13: Correlation matrix of Outcome variables

Pearson cor. coef. ( <i>p</i> values),n	GC	AEC	PD	PI	DCE	DCO	DEA1	SSE	SSO
GC	-	0.319 (0.000) 222	0.271 (0.000) 234	0.175 (0.007) 234	-0.244 (0.020) 91	-0.042 (0.660) 111	0.066 (0.537) 91	0.093 (0.545) 45	-0.085 (0.583) 44
AEC	0.319 (0.000) 222	-	0.169 (0.012) 222	0.113 (0.094) 222	0.027 (0.800) 89	0.170 (0.076) 110	-0.034 (0.752) 89	-0.021 (0.889) 45	-0.101 (0.514) 44
PD	0.271 (0.000) 234	0.169 (0.012) 222	-	0.428 (0.000) 235	-0.207 (0.049) 91	-0.040 (0.676) 111	0.125 (0.236) 91	-0.134 (0.381) 45	-0.139 (0.368) 44
PI	0.175 (0.007) 234	0.113 (0.094) 222	0.428 (0.000) 235	-	-0.037 (0.730) 91	0.001 (0.994) 111	-0.062 (0.562) 91	-0.058 (0.704) 45	0.077 (0.617) 44
DCE	-0.244 (0.020) 91	0.027 (0.800) 89	-0.207 (0.049) 91	-0.037 (0.730) 91	-	0.113 (0.321) 79	-0.736 (0.000) 95	-	-
DCO	-0.042 (0.660) 111	0.170 (0.076) 110	-0.040 (0.676) 111	0.001 (0.994) 111	0.113 (0.321) 79	-	-0.033 (0.771) 79	-	-
DEA1	0.066 (0.537) 91	-0.034 (0.752) 89	0.125 (0.236) 91	-0.062 (0.562) 91	-0.736 (0.000) 95	-0.033 (0.771) 79	-	-	-
SSE	0.093 (0.545) 45	-0.021 (0.889) 45	-0.134 (0.381) 45	-0.058 (0.704) 45	-	-	-	-	0.818 (0.000) 53
SSO	-0.085 (0.583) 44	-0.101 (0.514) 44	-0.139 (0.368) 44	0.077 (0.617) 44	-	-	-	0.818 (0.000) 53	-

Table 14: RAPM

	Survey			Case studies		
	Non-NPM	NPM	Av.	Non-NPM	NPM	Av.
How much importance does your superior, when evaluating your performance, attach to:						
a. How well I cooperate with my colleagues	<b>3.9*</b>	<b>4.1*</b>	4.0	4.5	4.3	4.3
b. My concern with costs	<b>3.6***</b>	<b>4.0***</b>	3.8	3.6	3.9	3.8
c. How well I dialogue with my operational boss	3.4	3.5	3.4	4.3	3.4	3.7
d. How well I dialogue with my political boss	3.5	3.5	3.5	<b>4.2**</b>	<b>3.4**</b>	3.7
e. How much effort I put into the job	<b>4.0**</b>	<b>4.2**</b>	4.1	3.8	3.9	3.8
f. My concern with quality	<b>4.3**</b>	<b>4.5**</b>	4.4	4.2	4.3	4.2
g. Meeting the budget	<b>3.1***</b>	<b>3.5***</b>	3.3	3.7	3.3	3.5
h. Meeting the goals at the amount of the agreed upon costs	<b>3.5**</b>	<b>3.7**</b>	3.6	4.0	3.1	3.4
i. My attitude toward my work and the company	<b>4.0***</b>	<b>4.4***</b>	4.2	4.3	4.3	4.3
j. The level at which I succeed to take initiatives that lead to a good image of the municipality	<b>3.8***</b>	<b>4.1***</b>	3.9	4.0	4.0	4.0
k. The level at which I succeed to take initiatives that lead to a good image of my political boss	3.2	3.1	3.1	3.3	3.6	3.5
l. The level at which I succeed to take initiatives that lead to a good image of my operational boss	2.9	2.9	2.9	2.5	3.1	3.0
m. My attitude to handle my men	4.3	4.3	4.3	4.5	4.4	4.4

\* Statistically significant differences at  $p < 0.10$

\*\* Statistically significant differences at  $p < 0.05$

\*\*\* Statistically significant differences at  $p < 0.01$

Table 15: Backward regression analysis independent variables

	Model 1		Model 2		Model 3		Model 4	
	Stand. $\beta$	t	Stand. $\beta$	t	Stand. $\beta$	t	Stand. $\beta$	t
<b>Goal Clarity as dependent variable</b>								
Constant	--	13.552	---	15.031	---	19.265	---	20.063
RAPM	0.019	0.286	---	---	---	---	---	---
EU	0.023	0.339	0.023	0.343	---	---	---	---
TU	-0.287	<b>-4.285***</b>	-0.288	<b>-4.338***</b>	-0.287	<b>-4.337***</b>	-0.288	<b>-4.350***</b>
FU	-0.060	-0.896	-0.059	-0.887	-0.059	-0.888	---	---
DCC	0.320	<b>4.776***</b>	0.320	<b>4.789***</b>	0.321	<b>4.816***</b>	0.329	<b>4.968***</b>
	F=9.355	p=0.000	F=11.732	p=0.000	F=15.680	p=0.000	F=23.153	p=0.000
	R <sup>2</sup> =20.6%		R <sup>2</sup> =20.6%		R <sup>2</sup> =20.5%		R <sup>2</sup> =20.2%	
	Adj. R <sup>2</sup> =18.4%		Adj. R <sup>2</sup> =18.8%		Adj. R <sup>2</sup> =19.2%		Adj. R <sup>2</sup> =19.3%	
	n=186		n=186		n=186		n=186	
<b>Agreement on Evaluation Criteria as dependent variable</b>								
Constant	---	33.838	---	37.801	---	48.746	---	51.963
RAPM	0.024	0.364	---	---	---	---	---	---
EU	0.094	1.441	0.094	1.438	---	---	---	---
TU	-0.168	<b>-2.563**</b>	-0.170	<b>-2.609***</b>	-0.165	<b>-2.521**</b>	-0.165	<b>-2.515**</b>
FU	0.105	1.603	0.106	1.615	0.103	1.566	---	---
DCC	0.458	<b>6.957***</b>	0.458	<b>6.981***</b>	0.460	<b>6.981***</b>	0.447	<b>6.814***</b>
	F=12.094	p=0.000	F=15.159	p=0.000	F=19.406	p=0.000	F=27.657	P=0.000
	R <sup>2</sup> =25.7%		R <sup>2</sup> =25.6%		R <sup>2</sup> =24.8%		R <sup>2</sup> =23.7%	
	Adj. R <sup>2</sup> =23.6%		Adj. R <sup>2</sup> =23.9%		Adj. R <sup>2</sup> =23.5%		Adj. R <sup>2</sup> =22.9%	
	n=181		n=181		n=181		n=181	

Table 16: Results of regressing GC and AEC on EU, TU, FU and DCC

Contextual variable (CV)	EU-main	EU-int.	TU-main	TU-int.	FU-main	FU-int.	DCC-main	DCC-int.
<b>GC as dependent variable</b>								
<i>All municipalities</i>								
<i>p</i>	0.790	0.912	0.000	0.000	0.075	0.038	0.000	0.000
F value	0.236	0.177	13.764	9.137	2.622	2.865	11.287	7.988
Adj. R <sup>2</sup>	-0.8%	-1.3%	10.4%	9.9%	1.4%	2.5%	8.5%	8.6%
<i>n</i>	191	191	222	222	223	223	223	223
$\beta$ RAPM	0.045	0.200	0.036	0.074	0.055	<b>0.319**</b>	0.057	-0.461
$\beta$ CV	0.022	0.124	<b>-0.329***</b>	-0.293	<b>-0.144**</b>	0.486	<b>0.301***</b>	-0.079
$\beta$ RAPM x CV		-0.188		-0.050		<b>-0.702**</b>		0.641
<i>Non-NPM municipalities</i>								
<i>p</i>	0.517	0.648	0.003	0.000	0.561	0.519	0.374	0.485
F value	0.663	0.552	6.312	6.444	0.581	0.759	0.991	0.822
Adj. R <sup>2</sup>	-0.7%	-1.3%	8.6%	12.6%	-0.7%	-0.6%	0.0%	-0.5%
<i>n</i>	103	103	114	114	116	116	117	117
$\beta$ RAPM	0.098	0.597	0.073	<b>-1.349**</b>	0.073	0.323	0.077	0.502
$\beta$ CV	0.051	0.350	<b>-0.306***</b>	<b>-1.571***</b>	-0.071	0.475	0.104	0.417
$\beta$ RAPM x CV		-0.603		<b>1.846**</b>		-0.614		-0.537
<i>NPM municipalities</i>								
<i>p</i>	0.772	0.708	0.000	0.000	0.080	0.076	0.000	0.000
F value	0.259	0.464	11.279	9.008	2.591	2.362	13.767	12.964
Adj. R <sup>2</sup>	-1.7%	-1.9%	16.2%	18.5%	2.9%	3.7%	19.7%	25.7%
<i>n</i>	88	88	107	107	106	106	105	105
$\beta$ RAPM	-0.078	-0.985	-0.082	<b>0.918**</b>	-0.013	0.232	0.058	<b>-2.465***</b>
$\beta$ CV	-0.014	-0.704	<b>-0.427***</b>	0.572	<b>-0.218**</b>	0.472	<b>0.468***</b>	<b>-1.307**</b>
$\beta$ RAPM x CV		1.106		<b>-1.310*</b>		-0.759		<b>2.815***</b>
<b>AEC as dependent variable</b>								
<i>All municipalities</i>								
<i>p</i>	0.537	0.008	0.027	0.058	0.826	0.886	0.000	0.000
F value	0.632	4.040	3.692	2.530	0.191	0.215	23.196	15.809
Adj. R <sup>2</sup>	-0.4%	4.7%	2.4%	2.1%	-0.8%	-1.1%	17.0%	17.1%
<i>n</i>	186	186	216	216	217	217	217	216
$\beta$ RAPM	0.037	<b>2.071***</b>	-0.001	-0.197	0.022	0.100	0.014	0.436
$\beta$ CV	0.074	<b>1.489***</b>	<b>-0.183**</b>	-0.372	0.035	0.225	<b>0.422***</b>	<b>0.740**</b>
$\beta$ RAPM x CV		<b>-2.470***</b>		0.261		-0.209		-0.531
<i>Non-NPM municipalities</i>								
<i>p</i>	0.295	0.001	0.024	0.005	0.286	0.470	0.000	0.000
F value	1.236	6.310	3.885	4.616	1.267	0.850	10.781	8.229
Adj. R <sup>2</sup>	0.5%	14.1%	5.1%	9.2%	0.5%	-0.4%	15.1%	16.5%
<i>n</i>	98	98	108	108	110	110	111	111
$\beta$ RAPM	0.114	<b>3.525***</b>	0.070	<b>-1.269**</b>	0.107	0.059	0.066	<b>0.958*</b>
$\beta$ CV	0.108	<b>2.271***</b>	<b>-0.248***</b>	<b>-1.511***</b>	0.111	0.000	<b>0.399***</b>	<b>1.093**</b>
$\beta$ RAPM x CV		<b>-4.120***</b>		<b>1.797**</b>		0.121		<b>-1.166**</b>
<i>NPM-municipalities</i>								
<i>p</i>	0.216	0.214	0.086	0.014	0.258	0.278	0.000	0.000
F value	1.560	1.525	2.515	3.708	1.372	1.301	12.782	11.268
Adj. R <sup>2</sup>	1.3%	1.8%	2.8%	7.1%	0.7%	0.9%	18.5%	22.9%
<i>n</i>	88	88	107	107	106	106	105	105
$\beta$ RAPM	-0.188	-1.311	<b>-0.173*</b>	<b>1.412**</b>	-0.147	0.051	-0.080	<b>-2.275***</b>
$\beta$ CV	0.000	-0.887	-0.158	<b>1.170**</b>	-0.055	0.496	<b>0.427***</b>	<b>-1.135**</b>
$\beta$ RAPM x CV		1.377		<b>-1.726**</b>		-0.611		<b>2.468**</b>

\* Significant  $\beta$  at  $p < 0.10$   
 \*\* Significant  $\beta$  at  $p < 0.05$   
 \*\*\* Significant  $\beta$  at  $p < 0.01$

Table 17: Results of regressing GC and AEC on FR

	GC main	GC interaction	AEC main	AEC interaction
<i>All municipalities</i>				
<i>p</i>	0.142	0.116	0.103	0.158
F value	1.979	2.007	2.312	1.758
Adj. R <sup>2</sup>	1.4%	2.2%	1.9%	1.7%
n	138	138	136	136
β RAPM	-0.126	-0.410	-0.114	-0.277
β FR	0.149	-0.547	0.176**	-0.222
β RAPM x FR		0.825		0.473
<i>Non-NPM municipalities</i>				
<i>p</i>	0.628	0.481	0.155	0.235
F value	0.469	0.834	1.926	1.461
Adj. R <sup>2</sup>	-1.8%	-0.8%	3.1%	2.3%
n	62	62	59	59
β RAPM	-0.123	-0.459	-0.092	-0.295
β FR	0.027	-1.287	0.240*	-0.543
β RAPM x FR		1.378		0.822
<i>NPM municipalities</i>				
<i>p</i>	0.158	0.219	0.577	0.665
F value	1.891	1.510	0.554	0.527
Adj. R <sup>2</sup>	2.4%	2.0%	-1.2%	-1.9%
n	75	75	76	76
β RAPM	-0.161	-0.418	-0.120	-0.327
β FR	0.217*	-0.321	0.085	-0.348
β RAPM x FR		0.676		0.544

\* Significant β at  $p < 0.10$

\*\* Significant β at  $p < 0.05$

Table 18: Overview of hypotheses and results

	Goal Clarity		Agreement on Evaluation Criteria	
	Hypothesis	Results	Hypothesis	Results
<i>Main effects</i>				
Environmental Uncertainty (EU)	N	N	-	N
Task Uncertainty (TU)	-	-	-	All: - Non-NPM: - NPM: N
Funding Uncertainty (FU)	-	All: - Non-NPM: N NPM: -	-	N
Funding Responsibility (FR)	+	N	+	All: + Non-NPM: N NPM: N
Decision making, communication, change and culture (DCC)	+	All: + Non-NPM: N NPM: +	+	+
<i>Interaction with RAPM</i>				
RAPM x EU	N	N	All: no hyp Non-NPM: + NPM: N	All: - Non-NPM: - NPM: N
RAPM x TU	N	All: N Non-NPM: + NPM: -	-	All: N Non-NPM: + NPM: -
RAPM x FU	-	All: - Non-NPM: N NPM: N	-	N
RAPM x FR	+	N	+	N
RAPM x DCC	+	All: N Non-NPM: N NPM: +	+	All: N Non-NPM: - NPM: +

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## Appendix A-1

### **The interview's orientation phase topics (summary)**

1. Acquaintance and introduction on the interview
2. Short explanation of my PhD project
3. Introduction by the interviewee (position, personal background, task of department)
4. Theme 'accountability' \*
5. Theme 'uncertainty' \*\*
6. Rounding off

\*) In this part the interviewee will be asked about the things managers are held accountable for, the manager's responsibilities and performance evaluation.

\*\*\*) In this part of the interview, questions will be asked about uncertainties that are stemming from the environment as well as from the tasks performed. These questions will be asked in a non-structured way. Only if necessary, the researcher will mention the different sources of uncertainty managers can be confronted with (central government, customers, etc.).

## Appendix A-2

### **The interview's multiple field study phase topics (summary)**

1. Acquaintance and introduction on the interview
2. Background information of the interviewee
3. Aspects for which municipal managers are held accountable for
4. The implementation of the 'integral management' principle
  - Is this principle implemented at this municipality?
  - What does this mean in daily practice? For which aspects is the manager held accountable and/or responsible for (financial, personnel, legal aspects)
  - Is the manager (and how) held accountable by the stakeholders: municipal executive, operational managers, alderman, or other people
5. Reliance on accounting performance measures (RAPM construct, see Table 3)
6. Effects of being accountable (see Table 7)
7. Predictability of environmental uncertainties (see Table 4)
8. The impact of environmental uncertainties (see Table 5)
9. Task uncertainties (see Table 6)

## **Appendix B – Additional sample characteristics**

In order to get an impression on the municipality we asked the respondents about the organizational structure and the budgeting system of the municipality. Table B1 and Table B2 show that municipalities are homogeneous on these aspects: Most municipalities have a moderate decentralized organization structure (70.3%) and a product budgeting system (70.9%)<sup>23</sup>.

*Table B1: Organizational structure*

Organization structure	Frequency	Percentage
Centralized model ('Secretarie model')	14	6.1
Moderate decentralized model ('Sectoren-model')	161	70.3
Decentralized model ('Concern model')	25	10.9
Other	29	12.7
Total	229	100.0

*Table B2: Budgeting system*

Budgeting system	Frequency	Percentage
Functional budgeting	61	26.9
Product budgeting	161	70.9
Other	5	2.2
Total	227	100.0

The average age of the respondents in the sample was 47.5 years. Respondents had had, on average, worked with their present employers for 12.4 years. The average number of employees in the respondents' area of responsibility was 22.3. Table B3 contains further descriptive statistics on these variables.

*Table B3: Descriptive statistics on descriptive variables*

Position variables	mean	Std.dev.	median	Actual range		n
				Min	Max.	
Age	47.53	6.64	48.00	27	61	232
Tenure with organization	12.35	10.78	10.00	0	40	232
Tenure in position or function	11.15	8.81	10.00	0	40	233
Employees in are of responsibility	22.27	32.67	13.55	0	304	228

The respondents are an average well educated: more than 75% of the managers have had higher education (refer to Table B4).

<sup>23</sup> In a survey six years ago (in 1996), there was much more variation between the municipalities on these characteristics (Groot & Budding, 2002). We think these changes are due to institutional ('fashion-like') aspects and new regulations from the central government (the so called 'dualisering' law)

*Table B4: Educational background*

Educational level	Frequency	Percentage
Pre-vocational education (Mavo)	5	2.2
Senior general secondary education (Havo)	14	6.0
Pre-university education (VWO)	6	2.6
Senior secondary vocational education (MBO)	30	12.9
Higher Professional Education (HBO)	140	60.3
University	37	15.9
Total	232	100

Another relevant background characteristic for this research project is whether respondents have worked in the private sector as well (refer to Table B5). One third of all managers has worked in the private sector (other than a sideline or a job during a holiday).

*Table B5: Working experience in the private sector*

Have you worked in the private sector?	Frequency	Percentage
Yes	85	36.5
No	148	63.5
Total	233	100.0

We also asked the respondents about their own supervisor (refer to Table B6). Almost 55% of the managers have the managing director (in Dutch: sectordirecteur) as their supervisor, for 27% this is the municipal executive and 18% of the respondents have another supervisor or no supervisor at all. At almost all municipalities, the supervisor is also the person that assesses the manager (e.g. Table B7).

*Table B6: Supervisor of the respondent*

Who is your supervisor in the civil service?	Frequency	Percentage
The managing director	128	54.9
The municipal executive	63	27.0
Another answer	42	18.0
Total	233	100.0

*Table B7: Yearly assessment*

With whom do you have a yearly assessment? (more than one answer is possible)	Frequency	Percentage
The managing director	124	51.5
The alderman	1	0.4
The municipal executive	69	28.6
Another answer	47	19.5
Total	241	100.0

## **Appendix C - Development of measurement instruments**

Because this study aimed at replicating the research of Hartmann (1997) in a non-profit setting, the choice was made to use the measurement instruments developed by Hartmann (1997) and adapt them to a non-profit setting. The adaptations were based on a critical analysis whether the items had a different or no meaning in a not-for-profit setting and the findings of the orientation phase.

### *RAPM:*

- Source: Hartmann (1997)
- Original sources: Hopwood (1972) and Otley (1978)
- Questionnaire: see Table 3
- Adaptations:
  - Item 'How well I get along with my boss', was splitted into two items : 'How well I get along with my operational boss' and 'How well I get along with my political boss'
  - Item 'Meeting the budget' was reworded 'Not overrunning the budget'
  - Item 'How much profit I make' was removed
  - Item 'Meeting the budget at the amount of the agreed upon costs was added
  - Items 'The level at which I succeed to take initiatives that lead to a good image of the municipality', 'The level at which I succeed to take initiatives that lead to a good image of my political boss' and 'The level at which I succeed to take initiatives that lead to a good image of my operational boss' were added.
  - Calculation : First the maximum of the scores on the 'My concern with costs' and 'Not overrunning the budget' items was taken. This scores was added by the score on the item 'Meeting the goals at the agreed upon costs'. This overall 'financial' scores was divided by a summed score of the non-financial aspects. This non-financial score was calculated by summing up the scores on all ten non-financial items. Because Hartmann (1997) uses 6 non-financial criteria this score was multiplied by a factor 0.6.

### *Goal Clarity:*

- Source: Hartmann (1997)
- Original sources: Steers (1976), Rizzo et al. (1970) and House (1971)
- Questionnaire: see Hartmann (1997), Table F.6 (p. 152)

### *Agreement on Evaluation Criteria:*

- Source: Hartmann (1997)
- Questionnaire: see Hartmann (1997), Table F.7 (p. 153)

### *Environmental Uncertainty:*

- Source: Hartmann (1997)
- Original sources: Govindarajan (1984) and Merchant (1990)
- Questionnaire: see Table 4 and Table 5
- Adaptations:
  - Item 'Behavior and/or strategies of your suppliers' split into an item 'Behavior and/or strategies of suppliers for your own production' and 'Behavior and/or strategies of suppliers of contracted out services'
  - Item 'Behavior and/or strategies of competitors' removed

- Item 'Legal and/or political developments' adapted to items about 'Behavior and/or strategies of central government', 'Behavior and/or strategies of local politics' and 'Behavior and/or strategies of operational bosses'. At the multiple field study phase these items were proposed regarding 'job responsibilities' and 'the way services have to be performed'. However, this last distinction was not used at the survey phase.

*Task Uncertainty:*

- Source : Hartmann (1997)
- Original source : Withey et al. (1983)
- Questionnaire : see Table 6

*Funding Uncertainty:*

- Developed for this study

Ik ben ieder jaar weer onzeker of ik voldoende inkomsten (budget, inclusief eigen opbrengsten) kan genereren. - <i>Every year I am not sure whether I can get enough revenues (budget, including the revenues of the own department).</i>
Answering format : fully disagree=1, disagree=2, neutral=3, agree=4, full agree=5

*Funding Responsibility:*

- Developed for this study

Ik word geacht een deel van mijn budget te verkrijgen door extern tarieven in rekening te brengen – <i>I am responsible to provide a part of my own funding by charging external tariffs.</i>
Answering format : fully disagree=1, disagree=2, neutral=3, agree=4, full agree=5

*Decision making and communication, Change and Culture*

- Source : Chenhall & Morris (1995) and further developed for this study(\*)

Binnen mijn gemeente..... – <i>At my municipality...</i>
... is het hogere management gemakkelijk toegankelijk (benaderbaar) – <i>there is easy informal access to senior managers.</i>
... wordt tussen managers informatie uitgewisseld. – <i>managers share information with colleagues</i>
... is er sprake van open communicatie-kanalen en een vrije stroom van informatie – <i>there are open channels of communications and free flow of information.</i>
... gaan managers met elkaar om alsof ze een team vormen. – <i>managers deal with eachother like they are in a team*</i>
... wordt de nadruk gelegd op consensus en participatie bij besluitvorming.- <i>emphasis is laid on consensus-seeking, participative decision making</i>
... wordt er sterk de nadruk gelegd op vernieuwing, zonder aandacht voor de huidige gang van zaken. – <i>there is a strong emphasis on adaptation without concern for past practice</i>
... wordt de nadruk gelegd op initiatieven en vernieuwingen op decentraal niveau in

<p>plaats van op specialisatie en coördinatie vanuit de top. – <i>there is emphasis on initiative, and adaptation to the local situation rather than specialization and top level coordination</i></p>
<p>... worden fouten van managers getolereerd en gebruikt men deze om binnen de organisatie leereffecten te bereiken. – <i>manager's mistakes are tolerated and these are used to learn lessons from them</i></p>
<p>... worden managers aangemoedigd om nieuwe ideeën te ontwikkelen, ook al vallen deze buiten iemands verantwoordelijkheidsgebied. – <i>managers are encouraged to develop new ideas even if they fall outside the individual's area of responsibility.</i></p>
<p>... wordt er snel gereageerd op onverwachte kansen die zich voordoen. – <i>there is a fast reaction to take advantage of unexpected opportunities</i></p>
<p>... vangen superieuren politieke druk op voor hun ondergeschikten – <i>superiors take care of political pressure for their subordinates*</i></p>
<p>... is er sprake van een cultuur die stimuleert om potentiële problemen informeel te signaleren – <i>there is a culture that encourages informal signalling of potential problems</i></p>
<p>Answering format : fully disagree=1, disagree=2, neutral=3, agree=4, full agree=5</p>

## Appendix D - Regression models NPM/non-NPM municipalities

Table D1: Goal Clarity as dependent variable – non NPM municipalities

	Model 1		Model 2		Model 3		Model 4		Model 5	
	Stand. $\beta$	t	Stand. $\beta$	t	Stand. $\beta$	t	Stand. $\beta$	t	Stand. $\beta$	t
Constant		9.651	---	9.167	---	13.012	---	14.989	---	27.519
RAPM	0.079	0.789	0.080	0.812	0.207	0.849	---	---	---	---
EU	0.051	0.512	0.047	0.437	---	---	---	---	---	---
TU	-0.225	<b>-2.255**</b>	-0.224	<b>-2.256**</b>	-0.225	<b>-2.271**</b>	-0.231	<b>-2.338**</b>	-0.252	<b>-2.562**</b>
FU	-0.038	-0.377	---	---	---	---	---	---	---	---
DCC	0.150	1.485	0.146	1.463	0.142	1.431	0.147	1.488	---	---
	F=1.952 p=0.093		F=2.426 p=0.053		F=3.186 p=0.027		F=4.432 p=0.014		F=6.566 p=0.012	
	R <sup>2</sup> =9.5%		R <sup>2</sup> =9.4%		R <sup>2</sup> =9.1%		R <sup>2</sup> =8.5%		R <sup>2</sup> =6.3%	
	Adj. R <sup>2</sup> =4.6%		Adj. R <sup>2</sup> =5.5%		Adj. R <sup>2</sup> =6.3%		Adj. R <sup>2</sup> =6.5%		Adj. R <sup>2</sup> =5.4%	
	n=99		n=99		n=99		n=99		n=99	

Table D2: Agreement on Evaluation Criteria as dependent variable – non NPM municipalities

	Model 1		Model 2		Model 3	
	Stand. $\beta$	t	Stand. $\beta$	t	Stand. $\beta$	t
Constant	---	19.181	---	19.516	---	20.923
RAPM	0.090	0.959	0.080	0.866	---	---
EU	0.155	<b>1.666*</b>	0.161	<b>1.734*</b>	0.162	<b>1.757*</b>
TU	-0.175	<b>-1.871*</b>	-0.179	<b>-1.918*</b>	-0.184	<b>-1.974*</b>
FU	0.081	0.867	---	---	---	---
DCC	0.394	<b>4.168***</b>	0.402	<b>4.278***</b>	0.410	<b>4.393*</b>
	F=5.976 p=0.000		F=7.302 p=0.000		F=9.512 P=0.000	
	R <sup>2</sup> =25.3%		R <sup>2</sup> =24.7%		R <sup>2</sup> =24.1%	
	Adj. R <sup>2</sup> =21.1%		Adj. R <sup>2</sup> =21.3%		Adj. R <sup>2</sup> =21.5%	
	n=94		n=94		n=94	

Table D3: Goal Clarity as dependent variable - NPM municipalities

	Model 1		Model 2		Model 3		Model 4	
	Stand. $\beta$	t	Stand. $\beta$	t	Stand. $\beta$	t	Stand. $\beta$	t
Constant	---	8.930	---	9.594	---	10.363	---	13.456
RAPM	-0.059	-0.661	-0.058	-0.653	-0.057	-0.648	---	---
EU	-0.44	-0.504	-0.045	-0.519	---	---	---	---
TU	-0.404	<b>-4.592***</b>	-0.402	<b>-4.621***</b>	-0.407	<b>-4.726***</b>	-0.399	<b>-4.698***</b>
FU	0.018	0.193	---	---	---	---	---	---
DCC	0.479	<b>4.992***</b>	0.472	<b>5.314***</b>	0.465	<b>5.326***</b>	0.477	<b>5.612***</b>
	F=10.784 p=0.000		F=13.631 p=0.000		F=18.246 p=0.000		F=27.348 p=0.000	
	R <sup>2</sup> =40.0%		R <sup>2</sup> =39.9%		R <sup>2</sup> =39.7%		R <sup>2</sup> =39.4%	
	Adj. R <sup>2</sup> =36.3%		Adj. R <sup>2</sup> =37.0%		Adj. R <sup>2</sup> =37.6%		Adj. R <sup>2</sup> =38.0%	
	n=87		n=87		n=87		n=87	

Table D4: Agreement on Evaluation Criteria as dependent variable – NPM municipalities

	Model 1		Model 2		Model 3		Model 4		Model 5	
	Stand. $\beta$	t	Stand. $\beta$	t	Stand. $\beta$	t	Stand. $\beta$	t	Stand. $\beta$	t
Constant	---	29.177	---	32.431	---	34.445	---	45.199	---	55.707
RAPM	-0.140	-1.449	-0.140	-1.456	-0.125	-1.301	---	---	---	---
EU	-0.008	-0.089	---	---	---	---	---	---	---	---
TU	-0.172	<b>-1.796*</b>	-0.173	<b>-1.843*</b>	-0.163	<b>-1.734*</b>	-0.144	-1.537	---	---
FU	0.143	1.412	0.144	1.436	---	---	---	---	---	---
DCC	0.518	<b>5.084***</b>	0.517	<b>5.122***</b>	0.466	<b>4.901***</b>	0.492	<b>5.266***</b>	0.499	<b>5.305***</b>
	F=6.994 p=0.000		F=8.847 p=0.000		F=10.969 p=0.000		F=15.480 p=0.000		F=28.147 p=0.000	
	R <sup>2</sup> =30.2%		R <sup>2</sup> =30.1%		R <sup>2</sup> =28.4%		R <sup>2</sup> =26.9%		R <sup>2</sup> =24.9%	
	Adj. R <sup>2</sup> =25.8%		Adj. R <sup>2</sup> =26.7%		Adj. R <sup>2</sup> =25.8%		Adj. R <sup>2</sup> =25.2%		Adj. R <sup>2</sup> =24.0%	
	n=87		n=87		n=87		n=87		n=87	