Performance-based bonuses in the public educational sector

A viable management control instrument for school management?

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Preface

This thesis is written as a part of the Master of Business Administration programme at the University of Agder (UiA), located in Kristiansand.

The aim of our thesis is to identify how bonuses based on job performance could affect the behaviour of Norwegian teachers, and to identify the main challenges and possibilities associated with implementing this type of pay scheme in the Norwegian educational sector. The thesis is based on a multiple case study where we have conducted in depth interviews with nine employees, with representatives from both the teaching staff and school management.

Performing this qualitative study on management procedures in the Norwegian educational sector have required extensive, and not readily available information. Therefore, the research process this thesis is based on would not have been possible to execute without the help of the open-hearted and enthusiastic employees we have been fortunate to talk to. We would like to express our gratitude to the teachers and principals who gave us much needed insights in their organization and shared their experience.

Studying the use of management controls in the Norwegian educational sector has been an inspiring and rewarding process. This field of study is a personal favourite for the authors of this thesis, which it would not have been without the encouraging and dedicated teaching of Dr. Rafael Heinzelmann who also filled the role of being our supervisor during the writing process. We would like to express our gratitude to Dr. Heinzelmann for extensive guidance and constructive suggestions during the research process.

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Executive summary

This paper aims to contribute to literature on the use of management control systems in the Norwegian public educational sector, and to enlighten the reader on the possible impacts bonuses could have on teacher behaviour by answering the following research question:

"Could a performance-based pay scheme in the form of bonuses help to increase teacher performance level? What are the main challenges and possibilities when designing and implementing a performance-based pay scheme in the Norwegian public educational sector?"

This two folded research question will be answered by analysing our findings from the multiple case study we have conducted in the context of Norwegian middle schools. The first part of the question aims to investigate whether performance-based pay could be mobilized as a reliable part of the management control systems in the Norwegian public educational sector in order to increase teacher performance. Further on we have analysed challenges and opportunities associated with implementing such a remuneration system.

We are of the impression that the valuable insights the employees of the educational sector gave us during the interview process will enrich our thesis. The interview objects have extensive experience from the sector we have investigated and many of the insights they shared surprised the authors of this thesis more than once. We believe this will contribute to make our thesis as interesting to read as it has been to write.

The highlight of our conclusion is that performance-based pay could not increase teachers' performance, in the context of the Norwegian educational sector. The reasons for this are the teachers' negative attitude towards this type of pay scheme, the culture in the sector and the difficulties associated with measuring teacher performance. Bonuses also seem to crowd out the intrinsic motivation of teachers, which could affect their performance negatively. The main challenges with implementing a bonus system is the measurability issues associated with measuring teachers' performance and the process of separating teachers' efforts. The main possibilities concern directional benefits and the potential for recruitment and retention of valuable teachers.

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1.0 Introductory chapter

The purpose of this chapter is to give an overview of the main points of our thesis. The introductory chapter consists of our report background, the problem statement, the refinements of our thesis and a short explanation of how the thesis is structured.

1.1 Report background

Teachers' salary is a subject which have been heavily debated in Norwegian politics and news outlets in recent time. In 2018 the Norwegian prime minister addressed the media, arguing that teachers need twice the salary they are making today (Sissener, January 2019) One of the reasons why teachers' salary is often addressed by Norwegian politicians could be because most people are of the opinion that the salaries this profession receives in Norway are not sufficient compared to their efforts, and how valuable their work is considered to be. To illustrate how teachers' salaries are low, one could look at how these compare to Norway's neighbouring countries. Norwegian teachers receive the lowest salary of the Scandinavian countries, as shown in a OECD report from 2017 (Vik & Grøttvik, September 2017).

Salary levels are usually market-driven in most professional fields, which is a consequence of competition for employees. Thus, organizations need to match the offers employees receive from of competing firms, in order to retain and recruit human capital. It is common among modern firms in sectors where human capital is a limited resource to use considerable resources on salaries and focus on designing attractive compensation package for professionals they wish to recruit. As shown in a study from England, teachers tend to move around based on where salaries are considerably higher (Podgursky and Springer, 2006). If Norwegian teachers were similar to those observed in this study, teachers should be flooding the Norwegian labour market looking for new jobs with higher salary. As this is not reality, other factors must be in play.

Industrial development in Norway tends towards a more knowledge-based competitive sector, where human capital is an important competitive element. As information on job opportunities and potential salaries is easy to access and flows rigidly as a result of recent technological advancements, retaining competent employees becomes increasingly difficult, and at the same time more crucial for organizations in order to reach their strategic goals and long-term objectives.

Most of the Norwegian educational sector is publicly financed, but in the last ten years the number of private schools have almost doubled while there has been a decrease of approximately 400 public schools (Holterman, September 2017). Politicians encourage more competition in the school system and believe this will have a positive effect on the level of teaching.

The focus of several governments has recently been directed towards the use of pay-for-performance for teachers (Britton and Propper, 2015). This pay scheme has however not been heavily implemented in the Norwegian educational sector, and there are few reports on the potential effects this type of pay scheme could have. One reason for this could be the lack of existing bonus systems. There have however been conducted extensive research on the current salary model, which consist of fixed salary and non-reversible salary increases (utdanningsforbundet.no).

Former NHO-leader Kristin Skoglund have previously stated that there is a lack of consequence-culture in the Norwegian educational sector, and that efforts out of the ordinary are not properly rewarded. She argues that if a distinction is made between good performing teachers and the teachers not performing as well, this would highlight the importance of learning quality and potentially improve results. She believes that performance-pay will make it more attractive to become a teacher, thus attracting more applicants to the educational program which in turn will elevate the overall competence of the teachers (Aaberge, February 2016). *Høyre* representative Øystein Sundelin agrees and argues that by making the teaching profession a more prestigious career choice and giving teachers rewards to strive for, one will attract the best talents. Sundelin further points out that other factors than grades and tests should be awarded, such as class environment, less bullying and willingness to adapt in accordance with technological changes. He also points out that OECD surveys show that a pay-for-performance scheme works if one has a carefully thought out plan and could be successful when carried out in collaboration with the teachers (Oslohoyre.no). As politicians become more involved in the school reform, this research subject of teacher salaries takes on new importance. This is because many political initiatives rely on presumed relationships between salaries and teacher performance, and not fact-based arguments based on conceptual studies.

Because of the expressed interest in performance-based pay by relevant parties, we believe our thesis fills a demand for a scientific research. The aim of our thesis is not to describe how an implementation should be done, but rather to enlighten the reader on how the implementation of performance-pay, in the form of bonuses, could play out in the Norwegian public educational sector. We aim to investigate the possible consequences of the implementation of bonuses, and not the exact likelihood of each of these occurring.

We write our thesis in order for school's management to be better prepared to face a changing business environment with more private schools and competition for human capital. A key aspect associated with this is to understand how performance measurement and incentive systems can be mobilized as a reliable part of management control systems. By investigating the potential for changing one aspect of management control, relevant parties could get a better idea on how to achieve the strategic objectives determined by school management. Hopefully, by reading this research paper school management will have a better idea whether they need to change their control system or continue with their current structure.

1.2 Choice of research subject

In this section we will briefly present the reasoning behind choosing performance-based pay in the educational sector as the subject of our thesis.

We started out with a general interest for management control systems, and particularly the subject of incentive systems and performance measurement. During our education we have observed how teachers' salary is a heavily debated theme in Norwegian media and politics, as elaborated in the section above. Based on our research, there also seem to be a lack of studies done on the subject of different types of pay-schemes in the sector, and a expressed demand for this. Furthermore, we have previous experience with data gathering in the educational sector and know that teachers and principals are eager to share information. We find data availability to be one of the most critical aspect of scientific research and was eager to write about a subject with easily accessible and interesting data. In terms of choosing bonuses as the specific research subject, this is a type of variable pay the authors have experience with from our working careers, which is the reasons why we find the subject intriguing. This type of pay might seem a bit extreme for the educational sector. However, we believe it would be interesting to discover what managers in the sector think of this type of pay. Moreover, it would be interesting to see whether they might consider implementing such a control system and discuss this in their management teams, or if they are mainly focused on continue using the current system. In our deductive evaluation we started out with a general topic of interest and worked our way through decisions, specifying the subject at every crossroad.

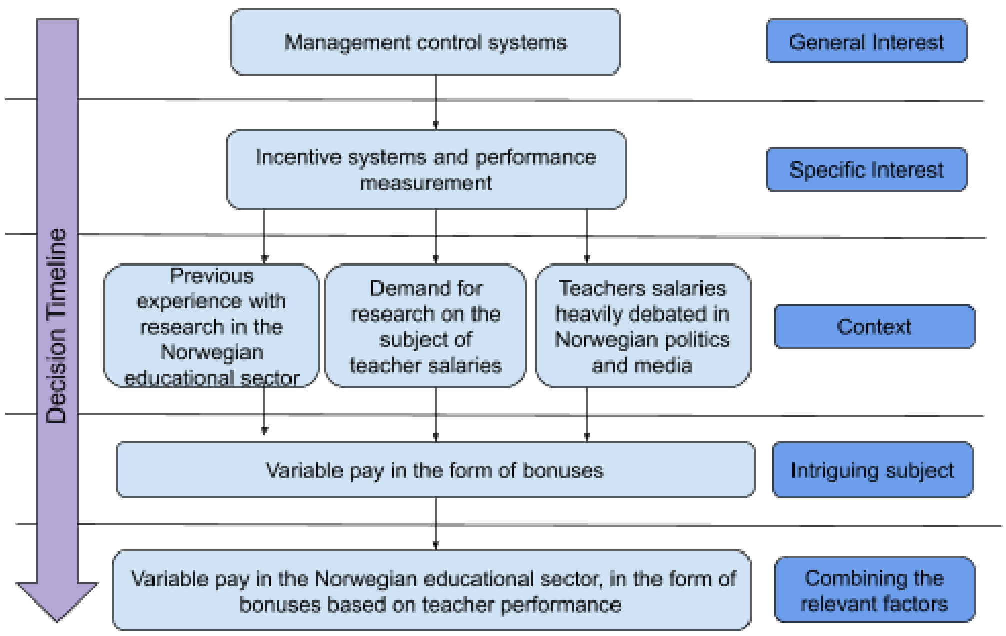

Figure 1: Decision model for research subject (self-made)

1.3 Problem statement and research question

Based on the background of our thesis, our interests in the research subject and our choice of a multiple case study approach, we have developed the following research question:

"Could a performance-based pay scheme in the form of bonuses help to increase teacher performance level? What are the main challenges and possibilities when designing and implementing a performance-based pay scheme in the Norwegian public educational sector?"

Our research question is two folded, which will have an impact on the structure of the thesis; in the analytical section the first part of the research question will be analysed before the latter. The answers to the two research questions does however overlap in some degree, because the potential challenges and possibilities associated with implementing pay-for-performance could affect how teachers' performance is affected. A significant aspect of our research question is whether or not teacher performance is increased. To answer this question, an elaboration on how we define *teacher performance* is necessary.

In managerial science, psychology and other social sciences, the meaning of a word could be defined differently across sciences; connotations vary according to disciplines (Van Dooren, Bouckaer, Halligan, 2015). Teacher performance could be defined in several ways. Our definition is based on the characteristics of teachers' in the Norwegian educational sector

We have chosen to define teachers' performance partly based on the characteristics of the Norwegian educational sector, and party based on economic theory by Robert Simons (1987). Simons tie management control procedures closely to the completion of the organizational strategy. Thus, teachers' performance will be partly defined as in what degree teachers' are able to execute local organizational objectives. These local objectives are determined by school management and could be said to be demographically determined (see section 5.3). We will also partly define teacher performance as to what extent teachers are able to fulfil the objectives of *the knowledge promotion reform*, which can be described as the objectives the government have assigned to teachers. The final dimension of teacher performance is tied to the characteristics of Norwegian teachers. This dimension tries to capture their ability to interact with students and make them feel secure, and their ability to cooperate and interact with colleagues. Examples of such performance dimensions are; ability to cooperate in teams, ability to build valuable relations with students, being a good class leader, communicating with parents and others. Thus, our definition of teacher performance summarized in three performance dimensions. These are presented in Table 1:

1	Completion of objectives in the *knowledge promotion reform*
2	Completion of local objectives determined by local school's management. These could be; Digitizing methods of teaching, raising math grades, lowering student's absence, increasing student reading and writing skills.
3	Characteristics of the teaching profession in Norway, summarized in their ability to interact with students and colleagues. This performance dimension could be e.g. ability to create a bond with students, cooperating with co-workers, class leadership, willingness to change, creating a healthy teaching environment.

Table 1: Dimensions of teacher performance (self-made)

Our definition is developed to make the reader understand that teacher performance is complex and multifarious and cannot be summarized as "being able to teach students" or "achieving high student results"

1.4 Refinements

In accordance with Leigh's (2012) studies on the subject of performance-related pay, we define performance-based pay as encompassing instances where teachers receive payment for reaching performance targets. In this study we disregard the following as performance-based pay: payments for working in hard-to-staff schools, payments for teaching subjects for which there is an undersupply of applicants, payments for taking on functions such as *head teacher*, and inflation adjusted salary.

First of all, we have chosen to restrict empirical data-gathering to only concern the context of our research question. There have been conducted an extensive amount of research on the subject of bonuses and motivation in educational sectors abroad, and this thesis will only cover a sufficient amount of these in order to establish the empirical ground needed to answer our research question.

We have also refined our thesis geographically, where we have exclusively interviewed teachers and principals in Oslo, Akershus, Trøndelag and Kristiansand. During our interviews we observed regional differences in both the teachers' and principals' attitude towards performance pay. These will not be addressed in our report due to the fact that these could be considered to be another investigation for another master thesis. These regional differences do not concern management control systems, but rather regional cultural differences and domestic differences in the public's values and morals. Addressing these differences more in depth is also not decisive in order to answer our research question.

Another refinement of our thesis is the lack of a quantitative research data. The reason for this is the negative response we received from several principals when we asked if we could conduct a survey amongst their teaching staff. We believe the thesis would hold more value if a quantitative data collection was conducted to supplement the qualitative data. However, this was out of our hands and we believe the thesis holds valuable insight regardless, because of our interview findings. We believe that the arguments and statements made throughout this thesis will not be compromised, even though we have chosen to not include quantitative data.

We recognize that our thesis might not include all challenges and possibilities associated with implementing and designing a bonus system, as well as all of the effects this system could have on teacher performance. Because of the time-consuming nature of planning and interviews and other arguments based on methodological literature, we have conducted nine interviews. We consider the number of interviews to be sufficient. The extent of our thesis will be limited to the findings and analysis of these. We also believe these findings will be sufficient to address our chosen research question.

1.5 The structure of the thesis

In the following section we will present the theoretical foundation of our analysis, which includes relevant theory on management control, incentive systems, performance measurement and motivational theory. Subsequently we will present a literature review, where we analyse previously conducted research and studies on management control systems in the educational sector. Thereafter, we will explain our chosen research method followed by a short summary of some of the characteristics of the Norwegian educational sector and the current salary system. In this section we aim to enlighten the readers who are not familiar with the characteristics of this system. Further on, we will present findings from the interviews we have conducted, which will be analysed in the section thereafter. In the final chapter of the thesis, we present our conclusion with a thorough answer to our research question and our suggestions regarding further research on our chosen research topic.

2.0 Theoretical perspective

The purpose of this chapter is to provide the theoretical perspective needed to answer the research question. The chapter includes relevant theory on management control systems, with a explanation of control instruments and possible control problems. Furthermore, it includes relevant theory on incentive systems, bonuses and performance measurement. The chapter ends with a discussion on motivational theory.

2.1 Management control systems

"All organizations, even the tiniest, engage in some form of management control. In large organizations, management control tends to be formal, whereas in smaller ones it often is quite informal. Management control has existed as long as organizations have been in existence" (Anthony & Young, 2003, p.1)

As organizations grows and direct observation becomes costlier, managers need a system to motivate and monitor their employees. They grow into the need of certain systems to ensure that the company is heading in the right direction and that employees are doing their job. This system is what Anthony and Young (2003) describes as management control systems. Many theorists agree that the term *management control* has numerous meanings, which depends on the context in which it is applied or discussed (Herath, 2007). Merchant and Van der Stede (2017) have developed a broad definition, describing management control as a process to ensure that employees do what is best for the organization, while Robert Anthony (1965, p. 27) defined management control more specifically as

"*The processes by which managers assure that resources are obtained and used effectively and efficiently in the accomplishment of the organization's objectives"*

With his traditional definition Anthony links strategic planning with operational control, which helps managers carrying out the organizational strategy (Otley, 1987). Anthony and Young (2003) further developed Anthony's theoretical perspective dividing management control into four control processes described in Figure 2.

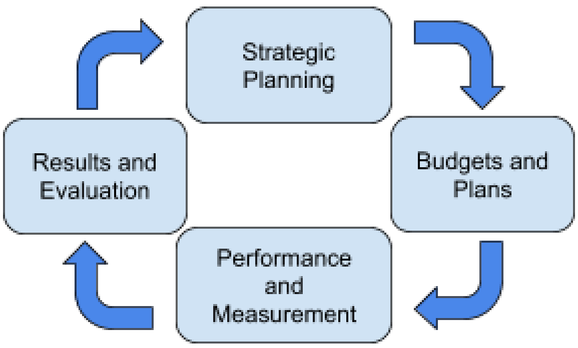

Figure 2: The traditional management control process by Anthony and Young (2003)

As we can derive from Figure 2, the four processes occur in a continuous loop, which it is often an annual process (Anthony & Young, 2003). By incorporating these process steps into one system, Anthony and Young equipped managers with a tool for providing relevant information in planning, decision-making and evaluation (Merchant & Otley, 2007). In Malmi and Brown's (2008) theoretical views management control does not revolve around one process, but multiple control systems working together in a symbiotic fashion.

As we can see, theorists have provided us with a large set of definitions to what management control is. Different theorists have also debated how to best control employees, and in what degree. According to Flamholtz (1983), controlling employee behaviour and actions is a necessity for every firm. This requires having well-functioning management control systems in place, which encourages employees to pursue company goals instead of their own interests. Merchant and Van der Stede (2017) argues that if managers could trust their employees at any given time there would be no need for management control systems. This theoretical view is built on a conceptual idea from earlier traditional management, with a notion of human mistrust (Bogsnes, 2009). This notion originates from a time where motivation was considered to be influenced by extrinsic factors, as suggested by Frederick Taylor's scientific studies. The conclusion of Taylor's studies was that employees needs to be controlled and directed, and that rewards should be based on fixed targets and budgetary goals (Kaufmann & Kaufmann, 1998).

As times changed, so did the views and conceptual thinking of theorists, and content theories were developed by Maslow, McClelland and Herzberg (Kaufman & Kaufman, 1998). The recognition of these motivational theories resulted in a more widespread adoption of *Theory Y* by McGregor (1960), where motivation is considered to be more intrinsically based. *Theory Y* suggest that employees could become motivated by receiving feedback and autonomy which is distant from the view of Taylor. Modern conceptual thinking has gradually moved away from Taylor's views, where budgetary restrictions and micromanagement was considered to be important, towards becoming more focused around a holistic perspective where nurturing employee motivation through self-preservation and achievement is considered more important.

Anthony and Young (2003) argues that since the first contributions to management theory[1], principles for designing and carrying out management control activities have changed a lot. Our

[1] Described as Chester Barnard's The Functions of the Executive (1938), which dealt with management control as well as other management activities.

beliefs are that in an ever-changing business environment, designs and leadership approaches are bound to change, even though "people" tend to stay the same. In line with our research question, most management control activities are evolved around motivating employees, and facilitating different aspect of their job in order to achieve higher organizational results, meaning to maximize the performance of a given strategy. We find our views on management; where actions must have a bases in organizational strategy, to be in line with management control theory by Robert Simons (1987). According to Simon's empirical view, it is paramount to aligning actions and decisions around its real aims of the organization, defined as the objectives of the business strategy.

2.1.1 Control instruments

In "the controllers' handbook" Lars Samuelson (2004) builds on Simon's (1995) categorization of "levers of control" and categorize management control in formal and informal instruments of control. Ax et al. (2010) built further on this categorization and ads organizational structure as a third instrument. The threefold categorization is explained in Table 2.

Formal control systems	Organizational culture	Informal control systems
• Financial targets • Benchmarking • Balanced scorecards • Budgets	• Evaluation • Decentralization • Incentive systems	• Empowerment • Rank • Learning • Organizational culture

Table 2: Threefold categorization of management control instrument (Samuelson, 2004)

Table 2 illustrates three types of management controls and their subordinate examples of control instruments. Informal systems are often described as *soft control* and include types of leadership or the organizational culture. Formal controls incorporate all planning control systems such as budgets, financial targets and scorecards. These are often referred to as *hard controls.* We find management controls such as incentive schemes in the organizational structure instrument. The three types of control instruments will be further addressed below.

Formal Controls

Formal control systems include budgets, benchmarking, financial targets and balanced scorecards. In this category, traditional budgets play a key role. The use of budgets has historically been criticized for a continuous lack of connection between strategy and budgets when implemented (Niven, 2006). This tendency undermines the previously mentioned view on management control objectives; the accomplishment of the organization's strategic objectives (Simons, 1987). Another critique directed towards traditional budgeting finds its basis in the Beyond Budgeting philosophy fronted by Jeremy Hope and Robin Fraser (2003), where budgets are viewed as excessive and flawed. One of the frontiers of the beyond budgeting movement was the CEO of Swedish Handelsbanken Jan Wallander, who suggested that firms should embrace relative performance measurements through benchmarking, rather than forming performance targets based on last year's budgetary achievements. Wallander (1999) argues that employees should be evaluated towards their closest peers, creating a continuous strive for improvement. Internal benchmarking could be implemented with both financial and non-financial metrics in the form of key performance indicators, which should be designed on the basis of the organization's most critical success factors (Bogsnes, 2009).

Informal Controls

In modern times, informal controls have received more attention and recognition because of their ability to direct employee attention and boost employee motivation. These controls include learning and education, employee empowerment and organizational culture (Ax et. al, 2010). According to Ax et al. the company culture will to a large degree direct employee focus towards the organizational objectives if developed correctly, and help employees understand what is considered to be desired behaviour. Organizational culture could also contribute to a healthy work environment and potentially encourage employees to seek responsibility (Samuelson, 2004). Management control through empowerment implies giving employees more responsibility, autonomy and decision-making authority, and by doing this, potentially decentralizing the organization. Empowerment also provides employees with a greater sense of ownership to their work, which could result in increased motivation (Buchanan et al, 1988).

Control through organizational structure

Ax et. al, (2010) allocates the organizations incentive systems, employee rewards and the companies decision making procedures as controls through organizational structure. Organizational structure could involve decentralization or centralization of decision-making authority. These control instruments also have the potential for motivating employees if designed and implemented correctly. Feedback and evaluation procedures are located in this categorization, which is a control instrument most managers make use of (Samuelson, 2004).

2.1.2 Management control problems

Management control systems are often sub-optimally designed or implemented, and problems associated with the procedures can often arise from a number of different reasons. Merchant and Van der Stede's (2017) categorization of the causes for management control problems is presented in Table 3:

1	Employees perform poorly because they are not certain about what the organization wants from them; they experience a lack of direction.
2	Employees experience lack of motivation. The reason for this could be that the employees feel that their sacrifices exceeds the rewards they receive. Motivational issues may also arise because the organizational goals and employees' personal goals are not aligned.
3	Employees have personal limitations; the employee knows what is expected and is highly motivated but lack the necessary training, education, experience or knowledge needed to perform.

Table 3: Causes for management control problems (Merchant & Van der Stede, 2017)

As there are many causes and various problems, there are also several ways of avoiding and coping with the control problems in Table 3. Merchant and Van der Stede (2017) mentions *activity elimination*, *automation*, *centralization* and *risk sharing* as avoidance possibilities. Another possibility is through implementing direct control of employees with legal or structural limitations, and clear boundaries in a hierarchical organizational structure.

Centralization of decision-making is frequent in many smaller businesses with strong management. In decentralized organizations it is important to have clear communication with each organizational entity, and to make each division focus their efforts, decisions and actions on their potential effect on internal and external stakeholders. A decentralized structure implies giving the organizational entities accountability and responsibility for executing the organizational strategy and reaching strategic goals. With this important mission, these divisions need a solid management control system (Merchant & Van der Stede, 2017).

2.2 Incentive systems

Incentives can be defined as rewards that change behaviour. Theorists agree that incentives are important management control instruments, some even go as far as stating that:

"Incentives are at the heart of effective economies, as well as effective organizations."
(Lazear & Gibbs, 2009, p. 262)

Incentive systems refers to the provision of the organizational rewards. Incentives ties rewards to performance evaluations. These rewards could be monetary and non-monetary. Monetary compensation could be salaries or company benefits and are typically external to the work itself. Non-monetary rewards have a more intrinsic appeal and could be praise, recognition or autonomy. Incentives provide the impetus for the alignment of employees' natural self-interest with the organization's objectives (Merchant & Van der Stede, 2017). They provide three types of management control benefits; *Informational*, *motivational* and the *attraction and retention of personnel* (Bragelien, 2011).

2.2.1 Informational benefits

According to Bragelien (2011) organizations design and implement incentive systems with a mission to inform employees where to direct their efforts. The *informational benefits* associated with incentives could therefore be referred to as the effort directing. According to Vroom's (1964) expectancy theory these directional advantages exists because employees tends to do what is rewarded. By rewarding wanted behaviour, managers could direct employee focus towards what is considered as important for an organization (Lazear & Gibbs, 2009).

2.2.2 Motivational benefits

Incentive systems could be implemented to influence employee motivation. One example of this type of control is rewards which makes employees' work harder or more effective (Bragelien, 2011). This second control benefit is often referred to as effort-inducing benefits. Motivation could be both extrinsic and intrinsic, and when there is a lack of extrinsic motivation amongst employees, monetary rewards could be an influential factor in changing this trend. Scientific studies have shown that performance-based incentive systems could be an effective motivator (Merchant & Van der Stede, 2017).

2.2.3 Attraction and retention benefits

The third and final control benefit is attraction and retention of valuable human capital. For some employees, the compensation for extorting efforts is an essential factor they consider when deciding which employer, they choose. Modern organizations focus on making their employee compensation packages attractive, because these could be vital in order to attract and retain employees, they consider to be valuable (Merchant & Van der Stede, 2017).

2.2.4 Negative rewards

Incentives could be linked to both positive and negative rewards. Negative rewards are often tied to unsatisfactory performance or situations where employees fall short of meeting performance targets. Examples of negative rewards or punishment could be unwanted work tasks or work-hours. They could also be more extensive and have a more substantial impact on an employee's career, such as suspension or dismissal. Negative rewards and punishment could lead to higher employee turnover (Merchant & Van der Stede, 2017).

2.2.5 Bonuses

Bonuses could be a part of a performance-based incentive systems, and often tie financial rewards to performance (Merchant & Van der Stede, 2017). Bonuses are one of several forms of variable-pay, which are often designed to differentiate pay according to an employee's contribution to a organization (Pink, 2009). Bonuses are often referred to as *annual incentive pay* and are often rewarded based on the completion of short-term targets.

There are both challenges and benefits with using variable pay and bonuses in incentive schemes. The greatest challenge is designing the pay system to make employees focused and concerned with the right organizations objectives, to the right extent. This involves designing a well-suited measurement system, with fitting performance targets and rewards employees perceive as valuable. The greatest opportunity associated with bonuses is their ability to motivate employees to achieve short-term targets (Merchant &Van der Stede, 2017).

Annual bonuses are often designed as one-time payments employees receive after achieving predefined targets for their results (Colbjørnsen et al., 2000). The design of the *bonus formula* will amongst other factors determine how this incentive system affects employee behaviour. In Figure 3 we have chosen to present how an annual bonus system works as opposed to a typical fixed salary increase system. In pay-for-performance scheme (1) annual bonuses are awarded to employees for reaching a performance target. Pay-for-performance scheme (1) also consist of adjustments in salary based on annual inflation as this type of bonus system often do. In pay-for-performance scheme (2) employees receives a non-reversible salary increase when a performance target is reached. This scheme also accounts for inflation-based salary adjustments. The two schemes are differentiated in how employees in salary system (1) could receive less salary in year n + 2 than in year n + 1 due to the fact that their performance targets were not reached, while employees under the second scheme always receives, as a minimum, the same amount of salary. Rewards who are *timely* have a higher motivational effect, because employees remember the basis for being rewarded these (Pink, 2009).

Figure 3: Graphical presentation of annual bonus systems and fixed salary increases (self-made)

As explained above there are multiple ways to design and implement a pay-for-performance salary system. The different approaches are often chosen based on variations in organizational structures, size, critical success factors, type of management control system or other organizational differences. Annual bonuses can be rewarded based on individual or group results, as well as the overall organizational performance (Pink, 2009).

Individual bonuses

The most commonly used bonus schemes are based on individual efforts and results (Gomez-Mejia et al., 2011). One advantage associated with individually based bonuses is that higher pay usually leads to higher performance. When there is a strong link between one employee's pay and efforts, it is likely that employee motivation will increase (Pink, 2009).

A potential downside of individual bonuses is that they narrow employee focus towards what is being rewarded (Pink, 2009). Organizational goals are often based on the long-term strategy, and short term-incentives could hurt the chance of completing these. The completion of an organization's long-term strategy could easily be damaged when employees are too narrow minded on the annual results being rewarded (Merchant & Van der Stede, 2017)

Another pitfall associated with individual bonuses is the potential for employee dissatisfaction when rewards have a weak link to performance. When employees do not feel that they are rewarded for their contribution, it could have a impact on their motivation and force negative associations with the incentive systems and management (Pink, 2009). Because of these pitfalls and their negative consequences, management should be careful when designing and implementing individual bonus systems. The appropriate setting to use this type of incentive system in is when employee performance is easy to measure, when competitive behaviour amongst employees are encouraged and cooperation amongst staff is less critical to the success of the organization (Pink, 2009).

Group bonuses

In modern organizations, teamwork and cooperative procedures are common and it is often critical for employees to work closely together and strive to help each other. Because of the cooperative nature of modern organizations, group incentives and reward systems have gained more recent recognition (Pink, 2009). Group incentives are often based on wider and more general indicators of efforts and performance. These incentives should be designed to encourage cooperative actions and effective team arrangements (Emery, 2004). Such plans often involve rewarding group members equally, which could prevent competitive behaviour. The reward system should encourage and motivate group members to think and act as a unit (Gomez-Mejia et al., 2011). Measuring and designing group performance targets have proved to be more manageable than individual systems, because one does not have to separate individual efforts and compare these towards each other (Pink, 2009).

While there are upsides associated with using group-based rewards in organizations that centre around collective efforts, there are also pitfalls management must be aware of. Group-based reward systems could lead to the *free-rider effect*, where members of the group rely on the efforts of other individuals to reach common performance goals while not contributing as much themselves. Another aspect of the *free-rider problem* is that if a team raise the overall team results by an amount equal to X, the member will receive a smaller return, described as X/N, where N is the team size. As N increases, the performance incentive grows smaller by each unit

(Prendergast, 1999). The effect may result in conflicts within groups rather than the intended cooperative cohesiveness (Merchant & Van der Stede, 2017).

Economic literature by Kandel & Lazear (1992); Vyrastekova, Onderstal & Koning (2006) suggests that team incentives could work better in small teams because there is potential for mutual monitoring in addition to an easy information flow amongst team members. Adnett (2002) argues that group-based bonuses could have a positive effect on *collegiate ethos*, as opposed to individual bonuses. In the report "a threat to collegiate ethos" assessing rewards based on individual efforts, he finds that information asymmetry, externalities and teamwork effects can provide a rationale for encouraging professional motivation.

Organization wide bonuses

Organization wide bonuses are bonuses based on results on the organizational macro level. In this type of bonus scheme rewards are based on efforts from all levels of the organizational hierarchy. The performance indicators tied to these rewards should reflect the long-term organizational targets, these could be e.g. share value, ROI or overall profits. This type of bonuses allows for organizations to adjust their employee's compensation based on how the organization is performing, limiting their financial risk (Gomez- Mejia et al., 2011).

Basing bonus systems on overall organizational performance allows for the employees to be more committed to the long-term value creation of organizations. However, a challenge with this type of this type of scheme is that employees often feel that they have a limited effect on the performance measures. The compatibility between individual efforts and organizational targets may also be difficult to explain and justify for management. Because of these aspects, it is beneficial to use organizational bonuses in addition to group based or individual bonuses. A combination of bonuses will make employees committed to long-term value creation while also feeling appreciated for their individual efforts (Merchant & Van der Stede, 2017).

2.3 Performance measurement

"Measurement is complex, frustrating, difficult, challenging, important, abused and misused" (Sink, D.S., 1991, p. 75).

As implied by Sink, the measurement of employees could be considered as one of the more challenging aspect of the managerial role. While measuring performance could be considered to be difficult, performance needs to be measured and evaluated in order to be rewarded. In these measurements and evaluations, complex and diverse challenges could rise. Both for-profit and not-for-profit organizations needs to conduct these procedures as a part of management control, in order to ensuring value creation. Thus, most management control systems need to include a performance measurement system or procedures (Pink, 2009).

When conducting performance measurement, two issues are more influential than others. The first issue arise when choosing performance indicators and targets. This involves formulating, designing and implementing the performance indicators and goals, which should be closely linked with the organizational strategy and objectives, while also capturing all value creation and account for uncertainty and an evolving business environment (Merchant & Van der Stede, 2017). The second is the potential behavioural issues which could erupt as a result of performance measurement. In the following section we will explain goal setting theory.

2.3.1 Measurement and goal setting theory

Critical success factors are parameters which in some extent need to be fulfilled or achieved in order for a organization to fully succeed (Daniel, 1961). In management accounting, these are often linked to the long-term strategy or objectives of an organization. Once these success factors are determined in the design phase of the management control systems, one needs to determine which indicators who will measure the employee's contribution to their achievement and in which extent they need to be fulfilled to be achieved. These measures must ensure that everyone pulls in the same direction and in traditional management accounting theory their performance goals should be SMART (Gardiner, 2005; Shields, 2007)

S	**Specific**
M	**Measurable**
A	**Ambitious but achievable**
R	**Relevant**
T	**Timely**

Table 3: The SMART model, originally developed by Doran (1981)

The performance goals should be *specific* both in order for employees to know what is being measured and for the indicators to measure the correct efforts. Secondly, they should be *measurable* in order for efforts to be observed and compared. Targets should also be *ambitious but achievable* for employees to have faith in the accomplishment these targets, while they should not be too easily achievable. They should also be *relevant* for the organization and the achievement of their goals and objectives. Lastly, they should be *timely*.

Specific and measurable

According to research conducted by Locke and Latham (2006) one of the most important aspects of goal setting is to design goals as specific and understandable for the employees. In their study they also found that difficult and specific goals led to high performance, and that unspecific goals had low effect on performance. This aspect of goal setting can be associated with the first reason for management control issues described by Merchant and Van der Stede (2017) in Table 2, where employees does not know what is expected of them. This could be a result of employees not understanding their performance goals or how these could be achieved (Shields, 2007).

In order for management to conduct follow ups and evaluation of the performance targets, the indicators of their achievements need to be *measurable.* If the measurement of achievements proves not to be quantifiable and valid, management control issues could occur and rewards tied with the measurement could become ineffective or wrongfully distributed (Locke & Latham, 2006).

Ambitious, but achievable

According to Locke and Latham (1968) goals should be complex and challenging, yet achievable. They argue that the higher the goal, the higher the performance. While it is important to set a goal that employees can strive for, one must be cautious not to set goals which are perceived as unreachable. Overwhelming goals which intend to motivate might have the opposite effect, and employees might feel demotivated and frustrated when it is too far of a stretch. This scenario often results in employees not reaching their goals (Whetten & Cameron, 2002). Thus, it is important that employees have access to the right amount of resources in order to reach their goals. Eventually, when goals are reached, it is important to be careful before setting a higher goal the next measurement period and assume that the employee will perform better. This could cause what is often referred to as the *ratcheting effect,* which occurs when employees' feel they are being punished for reaching goals (Merchant & Van der Stede, 2017).

The controllability principle which is studied by Bhimani et al. (2008), Merchant and Otley (2006) and Merchant and Van der Stede (2017) describes how employees should not be held accountable for results that they cannot control. Gabrielsen (2011) supplements this theory discovering several issues which could be a result of wrongful goal setting. When goals are set on measures where result does not correlate with employee efforts, there will be a vague link between performance and goal reaching. The employees who are risk averse will often be reluctant to bear unnecessary risk and could become demotivated when this occurs. With respect to the controllability principle, measures and goals should be developed based on what employees can control with their efforts. Merchant and van der Stede (2017) defines three categories of uncontrollable factors; acts of nature, competitive and economic factors, and interdependencies. The latter meaning that goals for an entity should not be set on measured results which is affected by other entities in the organization.

Relevant and timely

Goals and their measures should be based on the overall business strategy and long-term objectives (Merchant & Van der Stede, 2017). Most firms base their goals on financial and accounting measures, because these often reflect real value creation. However, these are not perfect measures of employee performance, and could be inadequate in not-for-profit organizations. Other factors such as human capital, brand value, customer relations, are not captured by these measures but cause real value creation. Measures and goals should reflect real value creation, and this way, be relevant (Shield, 2007).

Goals should also be timely, meaning that they should have a sufficient and predefined time frame. Employees should be able to accomplish their goals and their efforts must be given time to have an effect on the measured indicators (Shields, 2007). There should also be sufficient time for a feedback process between goal periods. Some goals should be set over several years, while others could be more short-term, this all depends on the strategy of the organization (Merchant & Van der Stede, 2017).

2.3.2 Performance measures

In order to measure employee performance, one needs to define the right measures and indicators. (Merchant & Van der Stede, 2017). Performance measurement systems should include a set of value drivers, which have to be carefully evaluated in order for them to sufficiently reflect real value creation. These indicators of value creation can be defined as critical success factors and should indicate what employees should focus on today in order to create value tomorrow. This set of performance measures could have many advantages if designed correctly, because they link individual goals with the overall organizational strategy or objectives, thus balancing short- and long-term objectives. Moreover, the measures should provide a timely performance evaluation, with both lead and lag, financial and non-financial measures (Kaplan & Norton, 1992).

In not-for-profit organization managers typically does not have a single financial bottom-line indicator they can measure the performance of their employees on. However, when measures of value creation is found, performance measurement and incentive systems in for-profit and not-for profit organizations have many similarities, both in terms of positive and negative effects (Merchant & Van der Stede, 2017).

Comparing employee performance in non-profit organizations could be done by *benchmarking* employee results on a set of non-financial performance indicators. In this type of organizations, it is critical to base the performance measurement on the right criteria or else this could hurt the organizational value creation (Merchant & Van der Stede, 2017). These criteria could be both objective and subjective measures. Objective performance measures could be considered as those who involve an impartial measurement, which does not hold bias. These measures are not the subject of a personal interpretations of results and are often presented as quantifiable. Subjective performance measures are influenced by the observer's personal opinion on what is considered sufficient. According to Merchant and Van der Stede (2017, p. 528) *proper subjective performance measures have undeniable advantages.* This is because they can correct for flaws in results measurement. However, subjective evaluations could create tension between management and employees, as subjective judgement vests a source of power in superior over their subordinates. Optimal performance measurement combines both objective and subjective weights (Baker et al, 1993).

Kaplan and Norton (1992) suggested implementing a *balanced scorecard* measurement system as one way of organizing these critical success factors and their measurement indicators, or KPISs. *Benchmarking* with the correct use of KPIs could prove to be effective in measurement systems who rely on a large set of subjective measures. Malina and Selto (2001) have studied the *balanced scorecard* approaches in practice and argue that this is an effective tool to align business strategy and performance management, while also focusing on continuous improvements. They also argue that inaccurate subjective measures could destroy some of the organizational value creation. One of their suggestions is to keep the measurement system both cognitively and administratively simple, with a limited number of subjective and objective performance measures.

2.3.3 Behavioural displacement

Accounting and financial measures can provoke a number of employee behavioural displacement issues (Merchant & Van der Stede, 2017). These issues occur when the behaviour that the management control systems provoke is not intended by management. Typical provocations of dysfunctional behaviour could be a result of the implementation of wrong measures and indicators, wrongfully weighting them or assigning them to the wrong organizational entity. In this chapter we will elaborate on some relevant behavioural displacement issues; using too few or too many performance indicators, *myopia problems*, *multi-tasking* issues and others.

Too few indicators could be a problem when the performance of a worker has multiple dimensions, and only some of these are measured and evaluated. This could result in equipping employees with a too narrow perspective on the overall objectives of the organization. Too many indicators may confuse employees by overwhelming them with information on where to direct their efforts (Parmenter, 2015). One approach which copes with the issues associated with too many indicators of performance is too use a balance scorecard (Kaplan & Norton, 1992). A balanced scorecard could be designed to keep track of many indicators, which means that each measure will only cover a small percent of the total performance, and the overall objectives of the firm. This approach does not fit all organization, depending on the extensiveness of the evaluation procedures and degree of results-oriented management control policy.

Multi-tasking could lead to behavioural displacement issues (Gabrielsen et al, 2007). When employees are made accountable for many and different tasks, they might get confused with which tasks that are considered to be the most important. This could lead to demotivated and confused employees. Problems of this nature have been observed in the educational sector, where teachers have multifaceted tasks; Educating a large number of students which require a different amount of attention, and multiple courses where the teachers need to direct their efforts (e.g., Holmstrom & Milgrom, 1991; Hannaway, 1992; Dixit, 2002). When employees are made accountable for only some of their tasks, this will direct their efforts towards these, which could also lead to control problems. Malina and Selto (2001) recommends an approach with a administratively simple and cognitive measurement system, with a relatively few number of performance measures.

Myopia displacement issues could cause serious and damaging consequences for organizations. Myopic behaviour could be described as short sightedness amongst employees' who aim to make short term gain. This is often done on the expense of the organizations more long-term objectives. Myopia could also be an issue amongst employees who are made accountable for short-term value-creation and focus on this while postponing and overlooking activities of long-term payoff (Merchant & Van der Stede, 2017).

Behavioural displacement caused by changes in incentive systems was described by Gabrielsen et al. (2007) who found that stable, predictable and transparent incentive systems often have the most positive performance results. Changing incentive systems based on new information and previous results could have negative effects and cause the *ratcheting effect* as described by Merchant and Van der Stede (2017). While changing these systems could have negative effects, this approach could be beneficial in sectors with uncertain environment.

Gaming with results and evaluation is another type of behavioural displacement, where the employee or manager takes advantage of opportunities to boost or manipulate results, making their performance look more favourable. Key ingredients in gaming or *gamesmanship* as Merchant and Van der Stede (2017) describes this phenomenon, is measurement responsibility and opportunistic behaviour. Gaming could be a result of too low or too high performance goals and could be explained in relation to the section on achievable targets in section 2.3.1. Achievable targets reduce the risk of *gamesmanship*. Bonuses could have powerful motivational effects on staff and managers in relation to tampering with numbers, or through foolhardy decisions (Merchant & Van der Stede, 2017).

2.4 Motivation

Motivation can be described as an inner driving force which affects the behaviour and actions of the members of the organizations (Busch & Vanebo, 2003). Motivation determines the direction, intensity and duration of effort (Pinder, 1998). According to Merchant and Van der Stede (2017) a lack of motivation could be viewed as one of the main problems causing management control issues. In this chapter we will present relevant motivational theory in context with the research question of this report. According to Langeland (1999) the most valuable resources for most modern organizations is the human capital, meaning the organization's workforce. Not keeping this workforce motivated often results in low organizational performance.

We often divide motivation in internal, external and prosocial motivation (Deci, 1975; Deci & Ryan, 1985). If the driving force behind behaviour originates from external rewards related to the performance, and not from the performance itself, one is influenced by external motivation. Internally motivated employees on the other hand, perform certain activities because aspects of the performance represent a certain value to them (Deci, 1975; Lepper, Greene, and Nisbett, 1973; Deci & Ryan, 2000). They experience satisfaction, joy or meaning when performing activities, and think less of the action as an instrument to achieve or avoid an external outcome (Ryan and Deci, 2000). A third type of motivation is so-called prosocial motivation, where people who experience being treated well and fair at work will respond with a positive and motivated attitude and take on an extra workload, or show greater loyalty to their employer, regardless of salary or exciting work-related tasks (Batson, 1987).

Employees are often affected by both internal, external and prosocial motivation at the same time, and distinguishing what factors which is caused by a specific motivational effect could be difficult to separate. Ensuring that employees are motivated could prove to be difficult when management does not know what really motivates the employees (Huczynski & Buchanan, 2010). Self-determination theory does however argue that that while incentives could direct efforts, they could also be perceived as controlling. This could *crowd out* intrinsic motivation, which often leads to demotivated employees (Jacobsen, Hvitved & Andersen, 2013). In modern organizational psychology it is common to divide motivational theory in; Behavioural, social and cognitive motivational theory, and the job characteristics model (Kaufmann & Kaufmann, 1998)

2.4.1 Behavioural theory

Behavioural theory considers motivation as a result of a set of basic human needs. According to McClelland's (1978) theories, the basic human needs employees will encounter at work can be divided into the need for affiliation, achievement and power (Kaufmann & Kaufmann, 1998). Maslow (1943) divides a person's basic needs into a hierarchy of five categories: physiological needs, safety needs, social belonging, self-esteem, self-actualization and transcendence. Personal responsibility, interaction with others and affection, in addition to having influence over other people are other key driving forces for human motivation according to Kaufmann and Kaufmann (1998).

2.4.2 Cognitive theory

Cognitive theories consider motivation as a result of each individual’s expected achievements, rewards and efforts. The theory suggest that humans are conscious, rational and calculating decision-makers, and that behaviour is a product of the choices we make. Cognitive motivational theory is often categorized as theories of expectation. The fundamental idea is that employees are expecting some type of reward from their work, either intrinsic of physical, monetary or verbal. The higher the expectations for a reward, the higher the motivation (Kaufmann & Kaufmann, 1998).

2.4.3 Social theory

Social theory assesses the human need for justice in context of both internal and external employees, and how one is treated and rewarded in relation to others (Kaufmann & Kaufmann, 1998). Equality theory aims to describe how human motivation is affected by the feeling of equality. Whether employees feel equally treated or not will impact their motivation, not only in relation to their co-workers, but also with employees of equal rank in similar organizations (Adams, 1963). In this theory, rewards are not of an absolute value, but will vary in value depending on how employees perceive their reward in a larger context. If employees feel equally or better treated this will result in a feeling of fairness and appreciation which will ultimately lead to motivation. It is important that leaders develop well thought through measurement procedures which justifies employees' efforts. Unjustified measurement procedures could have a negative impact on employee motivation. A way of hedging for this is to arrange regular feedback sessions and give employees the opportunity to comment and share their opinion on measurements and rewards. It is important to be able to justify and elaborate on the methods one uses. Being unable to justify for the methods that have been chosen could easily lead to employees drawing their own conclusions and notions of unfair treatment (Kaufmann & Kaufmann, 1998).

2.4.4 The job characteristics model

In this theory, motivation is explained as a result of perceived work characteristics. These could be personal achievements, recognition from relevant individuals, enjoying work tasks because they are interesting and vary in their nature, while also being challenging. Other motivational factors are responsibility, being promoted and having the ability to grow and learn (Herzberg 1959). In his famous theory, hygiene factors are described as aspect of work which could easily demotivated employees. These are considered to be leadership, work politics and administration. Others which are relevant to this thesis is the physical work environment, salary level, status, job security and social relations with co-workers (Kaufmann & Kaufmann, 1998). Hackman and Oldham (1975) expanded Herzberg theory and named their model which describes motivational aspects of work; *the job characteristic model.* I their model, aspects of work which could motivate employees is described as autonomy, variations in work tasks and the opportunity to use multiple personal skills in day to day work.

3.0 Literature review

In this section we will review relevant literature on performance-based pay in the educational sector. Economic theory can only take us so far when analysing the effects of performance-based pay for teachers, and earlier conducted empirical studies can help us build solid arguments based on relevant contextual experiences. The purpose of this chapter is to bring forth conclusions based on probable experiences, which will be used further on in this thesis to enrich our analysis and as background for our recommendations and conclusions. Studies done on performance-based pay in the form of bonuses, have not been extensively conducted in the Norwegian public educational sector. Thus, we are restricted to base most of our empirical evidence on studies done in countries where both the culture and values differ from what could be said to be the characteristics of Norwegian culture. Our literature review is heavily based on a research article by Podgursky and Springer, where they *examine the economic case for performance-related pay in the K-12 education system (2006, p.4)*

The section begins with a presentation of a number of studies done on teachers' attitude towards performance-based pay, and how the system affects their behaviour. Afterwards we present empirical studies addressing the effects of individual and group-based rewards. Following this we will present studies done on potential opportunities and challenges which can arise when implementing performance pay in schools. Finally, we present studies on how management control could have recruitment and retention benefits in the educational sector.

3.1 Teachers' attitude towards performance-based pay

In economic literature, monetary rewards are treated as a powerful instrument for improving performance and altering behaviour (Merchant & Van der Stede, 2017). In this subsection we will present studies done on teachers' attitude towards performance-based pay, and research done on how salary impacts teachers' behaviour.

3.1.1 The impact of performance-based pay on teachers' attitude

The impact financial incentives have on employees largely depends on the recipient's attitude towards the incentives, and on what the employee' values (Adams, 1963). The effect bonuses will have on the performance-level of teachers' will therefore to a large extent be dependent on their attitude towards such a scheme.

In the wake of the report "*A Nation at Risk*" from 1983 a number of schools experimented with performance pay to improve students' results. Research conducted on these pay programs highlights difficulties with creating reliable evaluation procedures and measuring teachers' contribution to students (Podgursky & Springer, 2006).

In 1993 Ballou and Podgursky published an article where they examined data from school and staffing surveys on teachers' attitude towards performance-related pay. The conventional wisdom at the time was that teachers are typically opposed the notion of performance-related pay, because evaluations based on the performance measures would make for unjust competition. The study showed that the average teacher felt that the drawbacks of performance-related pay far outweigh the benefits. The study also discredited the prediction that teachers' who are subject to performance-based pay show less favour towards the system. In fact, the study showed that teachers who have experience with performance-related pay show less hostility towards the compensation system.

In contrast to conventional wisdom about teachers' attitude towards performance pay, Podgursky and Springer (2006) finds that teachers' attitude towards performance pay is altered in either a positive or negative way, when they experience the system, while Witham (2008) finds that teachers' attitude towards the system altered in a positive way.

Research by Leigh (2012) show that teachers' have genuine concerns with having their salary based on their performance, especially in relation to the cooperative aspect of teamwork in school. In his article, Leigh refers to a survey done by McKenzie et al. (2008) on teachers in Australia and finds that teachers are especially opposed to being evaluated based on test-scores alone. Goldhaber et al. (2011) also finds that teachers are opposed to having their salary based on standardized test scores, which is considered to be the simplest and most objective performance measure of teacher quality by Leigh (2012).

3.1.2 The impact of performance-based pay on teachers' behaviour

Some studies have shown that the quality of teaching is improved when governments invests in teachers' salary, and that teachers work harder or more effectively when they are given a more handsome salary (Hammond, 2000). Research conducted in the English educational sector by Britton and Propper (2015) show that when increasing the wages by 10 percent, the average result on student test scores would be increased by 2 percent. They also find that English teachers' pay is important for schools' performance, and that teachers tends to move towards areas where pay is higher.

Incentive schemes that tie teachers' pay to student achievements, both on individual level and on team level may create more opportunities for cheating or other opportunistic behaviour in the long run. Studies on high stakes accountability systems have documented educators who alter test scores or assist students with test questions (Goodnough, 1999; Koretz et al, 1999; Jacob & Levitt, 2005). Related analyses have found evidence of schools' strategic classification of students as special needs students, and students with "limited English proficiency" (Deere & Strayer, 2001; Figlio & Getzler, 2002; Cullen & Reback, 2006; Jacob, 2005). Studies have also uncovered the use of discipline procedures to ensure that low-performing students will be absent on test day (Figlio, 2003), and the manipulation of grade retention policies (Haney, 2000; Jacob, 2005). Other studies have uncovered misreporting of administrative data (Peabody & Markley, 2003), and planning of nutrition enriched lunch menus prior to the test day (Figlio & Winicki, 2005). These could be considered to be some of the more extreme behavioural distortions which could occur when implementing performance-based pay in schools.

3.2 Individualized and group-incentive schemes

Podgursky and Springer (2006) discusses several studies conducted on the allocation of rewards on either a group or an individual basis and argue that rewards should be based on group efforts. They find that in schools who are heavily dependent on cooperation between teachers and cooperation between teachers and other staff members, the implementation of performance-based pay could be harmful to these collaborative relationships. Pay based on individual teachers' performance could reduce the incentives for teachers to cooperate, and as a consequence, reduce overall school performance (Podgursky & Springer, 2006). They also argue that team dynamic amongst teachers and administrators could be damaged due to the implementation of individual performance-based rewards, where the administrators are responsible for the allocation of the incentives.

Beer and Cannon (2004) present three characteristics of the public-school sector which could help increase the likelihood of a successful implementation of performance pay. The first argument derived from compensation literature concerns school culture which to a large degree discourages opportunism. The second argument is that school administration often reinforces this culture and are eager to prevent opportunism at their school. The third argument which could increase the chances of a successful performance-pay implementation is that teacher' generally have a long-term perspective with their career and are therefore dependent on attaining and retaining a good reputation. Opportunistic behaviour could damage the teachers' reputation which could have severe consequences for their career.

Podgursky and Springer (2006) argues that team morale is not undermined when a bonus is given to teams of teachers, in contrast to when they are based on individual efforts. They base their argument on empirical research by Kandel and Lazear (1992) who finds that because teachers' usually work in relatively small teams, the group-bonus system could work because economic literature by Adnett (2002) suggests that incentives work well in smaller teams.

3.3 How performance-related pay could affect student performance

In this section we will review literature on how student achievements are affected when teachers are rewarded based on their performance. It is important to review literature on this particular subject in order to get an indication of whether or not the implementation will result in better student results, which can be considered to be one dimension of teachers' performance, because of some school's local objectives and focus areas. The section will begin with establishing that teachers' influence students' results, followed by a presentation of studies showing that performance-based pay could result in higher student achievements and studies indicating a mixed effect.

For many years, educators and researchers have debated which school-related variables are most influential towards student achievement. Researchers have found that class size (Glass et al., 1982; Mosteller, 1995), school size (Haller, 1993), background and general social context (Coleman et al., 1966; Jencks et al., 1972) and other variables play an important role in explaining students' achievements.

How teachers engage in their students and in the classroom play a significant role in the overall performance of schools. Studies done in New York public schools found evidence that teachers to a large extent influence their students' performance growth and that there are noticeable differences in student achievements across classrooms, in correlation with teachers' efforts (Kane, Rockoff & Staiger, 2004; Boyd, Grossman, Lankford & Loeb, 2006). Studies done on the effectiveness of teachers show that there are many factors influencing student performance, such as: teaching certificate held by teacher, number of years' of experience and licensing exam scores (Podgursky & Springer, 2006).

In their article Podgursky and Springer (2006) finds that the incentive literature generally observe that bonuses have positive effects on student achievements. There are however also studies that depicts negative or mixed effects on student performance due to performance-based pay for teachers.

In response to an increasing drop-out rate and significantly declining student performance at a high school in Michigan, Eberts, Hollenbeck and Stone (2002) researched the potential effects of bonuses. Such a scheme was implemented to improve the dropout rate, which ultimately resulted in a significant increase in student course completion. However, non-targeted variables such as student grade point and average grade dropped because academically marginal students were induced to stay in school. The researchers conclude that the system should have been implemented in a more beneficial manner and that other performance indicators should have been included. The results of the study do however show that teachers responded to short-term incentive plans, and raised the course completion. This shows that bonuses based on short-term target could potentially direct teachers' efforts.

In 2004 a study was conducted by Glewwe, Ilias and Kremer in primary schools in rural Kenya. The participating schools were elected because of their relatively low performance-scores and pass rates. Similar to the study done in Michigan, the teachers were awarded for their contribution to increasing the student pass-rates. The bonuses tied to their performance was substantial, consisting of 21 - 43 percent of the monthly salary. The research showed that the incentive system resulted in improved pass-rates, but not in subsequent years after the incentives program was ended. Glewwe and colleagues ties the results to gaming and opportunistic behaviour asserted by the teachers.

3.4 Challenges and opportunities in relation to performance-based pay

In this subsection we will present the main opportunities and challenges uncovered by research done on performance-related pay in the school system. The purpose is to give a precise review of relevant aspects already mentioned in the theoretical section of this these. The challenges and possibilities we will address concerns performance measurement, team production, issues with *multi-tasking*, and others.

Murnane and Cohen (1986) have conducted extensive research on performance pay in the educational sector and were two of the first critiques of the system. In their research on the early performance-based pay programs in the US they argue that teaching is *not a field that lends itself to performance-related compensation* (Podgursky & Springer, 2006, p.15). This is a perspective that Goldhaber et al. (2005) recently have named the “nature of teaching” hypothesis. In the article published by Goldhaber and his colleagues, they address three arguments which are often used in similar research articles, criticizing performance pay in the educational sector.

The first argument is based on research conducted by Murnane and Cohen (1986), where measuring performance is described as more challenging with teachers than in many other professions, such as in sales or with lawyers and doctors with billable hours. It is argued that the work of teachers is not readily for measurement, because one cannot easily measure the value creation of a teacher or a group of teachers with the necessary reliability and validity.

The second argument against the implementation of performance-based pay systems described by Podgursky and Springer (2006), concerns the effect bonuses could have on the cooperation between teachers. To a considerable extent, teachers work as members of a team and by incentivizing on an individual level, teacher might neglect their responsibilities as team members, and not contribute to teamwork. As a consequence, school performance might be reduced rather than increased. Bonus schemes for groups of teachers is supported in economic literature and could help with some of the issues with not basing rewards on team production. It is however recommended that teams should be small, which could help with the *free-rider-effect* (Kandel & Lazear, 1992; Vyrastekova, Onderstal, & Koning, 2006).

The third argument against performance-related pay for teachers' concerns the topic of *multi-tasking*. Schools are institutions with multiple end products with heterogeneous inputs, and the introduction of performance monitoring is likely to end in dysfunctional responses (Dixit, 2002). In general, when there are multiple tasks as with teachers, performance-related pay could serve to direct the allocation of the agents' attention among their various duties. Holmstrom & Milgrom (1991) goes on to suggest that teachers' who face a highly incomplete set of performance measures, will not be motivated to act in the social interest. This could result in a decline in schools' overall performance; if tasks considered to be important is not incentivized and therefore not provided the necessary attention.

The phrase "teaching to the test" describes teachers narrowing their syllabus in order to artificially elevate test-scores. As mentioned above, by directing the focus of the teachers towards a set of selective indicators of performance, such as compensation for delivering increased student test scores, other valuable activities might suffer. It is a general conception within economic theory that one could reduce the effects of such distortions by diversifying the measures of performance (Podgursky & Springer, 2006). Another argument against performance-based pay is made by Bowen et al. (2014). In their article it is provided evidence that teaches are generally more risk averse than the average population, which does not fit the nature of bonuses.

In terms of possibilities, empirical studies have uncovered recruitment benefits with performance pay, where Lazear (2000) finds that performance-related pay tends to attract and retain the individuals who are particularly good at the activities and actions that are incentivized and repel those who are not. According to the research findings of Lazear (2000), by being careful when choosing indicators to base performance pay on, school administration could benefit from the system. Lazear have also found that performance pay raised the overall productivity of the staff, and the overall workforce quality.

Some researchers speculate in observations they have made in the labour market, where they find that highly capable teachers tend to leave the profession more frequently than teacher with lower capability (Murnane & Olsen, 1990; Podgursky, Monroe, & Watson, 2004). Podgursky and Springer (2006) explains this phenomenon by looking at constraints in teacher wages in comparison with other market opportunities. A study conducted by Hoxby and Leigh (2004) shows that teacher turnover rate could be explained by the lack of opportunities to have higher earnings. The study shows that *performance-related pay program likely would have kept more of them in teaching* (Podgursky & Springer, 2006, p. 21).

4.0 Research method

A research method is the concrete procedures for the preparation, planning and execution of scientific studies (Grønmo, 2015). In this section we will present and explain the research method we have chosen to answer our research question. The methodological approach in a scientific study will depend on the situation, research goal and the available resources (Gripsrud, 2010).

4.1 Research design

In order to choose between research designs, one needs to understand the different designs and how they fit different types of research objectives (Ghauri & Grønhaug, 2010). The research design describes how an analytical process should be conducted in order for a research question to be answered. It is decisive how much available information that is present on the research object or phenomenon beforehand and the purpose of the analysis. We consider three different research design; exploratory design, descriptive design and causal design. Explorative design is often used in studies where the purpose is to investigate a phenomenon and to provide more insight and understanding on a research objective. Explorative design is often associated with qualitative research methods while descriptive and causal is often associated with more quantitative research.

4.1.1 Our choice of research design

We consider an explorative research design to be suitable in order to answer our research question. This is because the phenomena we are investigating, which is performance-based pay in the form of bonuses in the Norwegian public educational sector, could be considered to be a problem area where there has been limited scientific research done before. In addition, our research objective is to provide more insight and explain the phenomena and related factors which fits the characteristics of an explorative design. Our choice of explorative research design allows for the use of individual in-depth interviews as a method of data retrieval which we believe will be beneficial in order to answer our research question (Gripsrud, 2010).

We also use a interpretive research methodology as we try to understand a phenomenon through individuals' experiences, their construction of understanding, and perceptions and interpretation of reality. This methodology is suitable for a qualitative research approach. In accordance with a interpretive view, generalization is of less importance, because of the a constantly changing environment, and that the aim is to discover the details in a situation in order to get a comprehensive understanding of reality (Saunders et al., 2003). This view fits our research approach where the aim is not to generalize the findings extensively, but to enlighten the reader on the reality of a specific phenomenon in its natural context.

4.1.2 Research strategy

Research strategy can be considered as the overall direction of research, including the guidelines and system that the research is done on the basis of. When choosing the overall research strategy, we had the choice between considering the research as an experiment, analysis of a questionnaire, analysis of archived data or as a case study. The case study approach is often associated with descriptive and exploratory research design and studies where the *research question is presented as a how and why question* (Ghauri & Grønhaug, 2010, p. 109). Case studies are often hard to conduct if one does not have sufficient access to data or observations on the particular phenomenon.

4.1.3 Our choice of research strategy

We chose case study as our research strategy early in the writing process when we discovered that Ghauri and Grønhaugs (2010) description of the approach was a good fit with our problem area and our goals for the thesis. We also discovered that the case study approach is consistent with our explorative design in addition to providing an appropriate approach with regards to the phenomenon we are researching. From the beginning of the research process we believed we would have easy access to relevant data, because we have conducted research on communication in Norwegian schools in an earlier course during our education and were familiar with how open principals and teachers tends to be towards sharing information with students. We find principals to be eager to learn and share their thoughts on management, which made us confident that the case study approach was a good fit for us, because we felt early on that we would have easy access to the data.

4.2 Research method

Early on in the process of conducting a scientific study, one has to be aware of which type of data that needs to be collected. Data could be categorized as quantitative, qualitative or a combination of both (Ghauri & Grønhaug, 2010). The quantitative approach is based on in which degree the data needed is measurable, particularly data in the form of figures on which tables, graphs and statistics (Askheim & Grenness,2008). Qualitative data is often used in research where there is a need for data which describes an object, and the method is often used in studies where the research phenomenon is difficult to quantify (Ghauri & Grønhaug, 2010). It is common with in-depth interviews and focus groups when extracting qualitative data (Askheim & Grenness 2008).

4.2.1 Our choice of research method

We chose in-depth interviews because our problem area is not easily quantifiable, and because our research objective is not to measure, but to describe and explain a phenomenon. Our choice was also based on the characteristics of our situation where we had better access to the method, through in-depth interviews with principals and teachers. Ghauri and Grønhaug (2010) defines in-depth interviews as an exchange of information through verbal conversations which is happening face to face, where the interviewer's objective is to gather insight, thoughts and opinions from the interviewee.

4.2.2 In-depth interviews

Face to face in depth-interviews are often considered to be the best method for the collection of advanced explanatory data. In communicative theory this is often justified with the fact that there is less noise and interference in the communication process, and that one can access more communicative channels through language, emotions and body language. Another positive aspect with this method is that the interview participants have the option to express valuable comments, feedback and additional information (Ghauri & Grønhaug 2010). We also considered it appropriate to use interviews when collecting data for our thesis because this method is recommended when an individual's personal opinion and experience is of use and interest. Negative aspects with in-depth interviews is that they could be time consuming, and because of this it could be difficult to find willing participants with the necessary time to spare. We had multiple potential prospects for our data collection and was confident that we would be able to collect a substantial amount of relevant data. When the interview process began, we reached out to candidates in different districts, which let us gather insight from different parts of the country.

Ghauri and Grønberg (2010) distinguish between structured and unstructured interviews. When conducting structured interviews, the response alternatives are often pre-determined by the interviewer while in unstructured interviews the respondent is more free to respond with their own thoughts and opinions, in their own wording. During unstructured interviews it is the responsibility of the interviewer to give guiding questions and note the answers, and restructure and transcribe the notes after the interview.

Because of our shortcomings in having the necessary previous acumen and understanding of the sector, we chose unstructured in-depth interviews as our method. This gave the interview object more freedom to elaborate their views and thoughts which proved helpful because of the fact that most interview objects had a lot to share regarding pay-for-performance, teacher evaluation and other aspects we were dependent on gathering information on in order to answer our research question.

The ideal attitude to have during an interview is directing free-floating attention to what is going on as well as listening in an unprejudiced manner (Freud, 1963). Before conducting our first interview we wanted to test our interview guide and make sure we knew what it meant to be in the role of an interviewer. We wanted to prepare ourselves for the task, and make sure that our interview guide was suited and in line with the data needed for our thesis. Therefore, we conducted a trial interview with a randomly selected person outside of the school system. We hoped to get helpful feedback from this trial interview in order to improve both the wording and the overall structure of our guide. We also wanted to make sure that our questions were both short and easily understandable. Our complete interview guide is presented in attachment (2) and (3).

It is important to make sure not to ask two separate questions at once (Kvale, 1997). It is also beneficial to make sure that one is not too tied up in the interview guide, in other words being prepared to ask questions in a different order than what was first intended. Being awake and having the necessary overview regarding what you are aiming to find out, will help with the flow of the interview and make for a good basis for the later analysis of the material (Kvale, 1997). We prepared thoroughly for the interviews, and as theory suggests, it proved to be helpful not to be too dependent on the interview guide, as the interviewees often answered two or three questions at once, even though we had prepared to avoid this. We always planned which part of the interviews each of us would manage.

Even though most of the subjects we interviewed had a moderate to intermediate understanding of the subject, it was helpful to start of the interviews by thoroughly presenting the research subject and question. We took on a more guiding role during the interviews but was careful not to disrupt their chain of thought. Because we knew that the interviewees had a lot on their plate and had limited time for the interviews, we did our best to keep the interviews as short as possible. We intended for each interview to last for approximately 30 minutes. The first interviews turned out to last a bit longer, but as we got more familiar with the questions and typical answers, we were able to make the interviews more effective and less time consuming. 30 minutes proved to be sufficient time for the interview objects to answer all the questions of our interview guide.

We chose to interview both principals and teachers to capture the view from each sides of the salary system. We felt interviewing both sides would capture an extensive amount of information in order to answer our research question. We mixed the interviewees in order to ask one party on the thought of the other, to understand how the two professions had different opinions and views. We conducted nine interviews in total, four interviews with teachers and five with principals. This proved to give us all the information we needed to answer our research question.

4.3 Transcription

During the interviews we recorded the sessions with an audio recorder. According to Kvale (1997), there are basically two different procedures for transcribing interview data: to meticulously write down every word, mark every pause and reproduce the dialect being used, or to edit the sound recording in a way that makes the different statements more grammatically correct, where incomplete sentences are completed, digressions are left out and so on. Which transcription procedures one should use depends on the intentions of the interviews (Kvale, 1997). As we are merely interested in analysing the content of meaning, we considered it to be unnecessary and distracting to read digressions and incomplete sentences. This is the reason why we chose to transcribe the interviews the same day as we conducted them, in order to best preserve our initial impression. From an ethical standpoint, we were careful to anonymize the participants in a way that normalized the transcripts. As we are writing our thesis in a different language than our participants spoke, it was unproblematic to normalize their dialect. The process of transcription was both time consuming and demanded an in-depth understanding of the subject at hand.

4.4 Collection of data

When exploratory research design is chosen, the purpose of the research is often to obtain relevant information through primary or secondary data (Askheim & Grenness 2008). Primary data is collected with the purpose of solving a research problem. Secondary data is information that has been retrieved by others, with intentions that may not be the same as oneself (Ghauri & Grønhaug, 2010).

4.4.1 Secondary data

Important sources of secondary data in case-studies could be market reports, financial reports, business statements and other reports on organizations (Ghauri & Grønhaug, 2010). Secondary data could be useful to solve a problem, but also to better explain and understand a phenomenon or object. When using secondary data, it is important to be critical of the information one finds. Not all information carries the reliability that one wants, it is therefore important to check the sources, and the secondary source if this is available. By using secondary data one can save a lot of time in addition to obtaining easy access to a large amount of information. Because we had easy access to primary data, we did not have to use a lot of secondary data.

4.4.2 Primary data

Important sources of primary data in case-studies could be verbal reports, personal interviews and observations (Ghauri & Grønhaug, 2010). Primary data is often used when secondary data is unable to answer questions or less accessible and available. Interviews, observations and surveys are examples of such data collection. An advantage with this type of data collection is that one extracts the data with a self-determined purpose. Negative aspects may be that the method can be time consuming and that it could be difficult to establish contact with the right individuals for questioning. Furthermore, there is an also chance that the right individuals might not be interested in sharing information.

In our study we choose to use primary data as our source of information. We chose this method because we had easy access to the sources and enough time to collect it directly from the primary source. Another reason for our choice of using primary data was because a large amount of the data we were dependant on finding was not available through secondary sources of data. We came to the conclusion that in-depth interviews were an expedient method for collecting the necessary data to answer our chosen research question. We also used the Norwegian governments websites to understand and analyse the current salary system, which could be considered as a primary data source. This information is easily accessible and reliable, as it is written by a trustworthy source. It is also presented in both Norwegian and English, which eliminates the issues of translating the information.

4.5 Quality criteria

An important part of the research process is to evaluate the data that has been collected. Two key concepts which is important to address when evaluating data quality is reliability and validity (Bougie & Sekaran, 2016).

4.5.1 Reliability

Reliability refers to the consistency of observations, usually whether two (or more) observers or the same observer on several occasions observe the same event, and attain the same results (Bougie & Sekaran, 2016, p.137). Briefly explained, the argument for an investigation's reliability should be satisfactory in terms of whether or not a critical reader is convinced that the quality of the research is good (Thagaard, 2011). When collecting data, there will always occur random errors and the more one avoids, the more reliability the investigation will possess. When trying to avoid making these random errors one should reflect upon two aspects of the research; the context of the data collection and whether or not the collection has been biased or not (Thagaard, 2011). Reliability has been established if other scientists can conduct the research with the same method and collect the same information. Reproducing the results in a quantitative investigation is often considered to be difficult because the context of the data collection has a substantial impact on the observations (Johannessen et al., 2011).

We believe our data holds reliability, because we conducted multiple interviews, and received several of the same answers. Some of the answers were however more unusual and would perhaps not occur if another scientist had conducted the same interview, we had with different interview objects. We were careful not to include most of the *outliers* of remarks from teachers and focused on basing the answer to our research question on the remarks which most of the interview objects agreed upon or didn't agree upon. We would also say that we conducted the interviews without bias, according to theory by Thagaard (2011). We were indifferent when conducting the interviews and were merely interested in hearing the interview objects opinions. Because we used a tape recorded, the findings from the interviews were kept as the originals throughout the process, which increases the reliability of data according to Tjora (2012). Furthermore, we established that the interview data would be kept anonymous and elaborated on NSDs[2] guidelines on the confidentiality of data, thus facilitating for the interview objects to

[2]Norwegian Center for Research Data

share their original and true opinion. The confidentiality agreement can be found in Attachment 7. Because the above-mentioned procedure was done continuously in all the interviews, we believe the interview objects shared their honest believes. We also never conducted interviews of teachers and principals at the same schools and informed the interview objects of this. This way we hoped they would not be afraid that we would share their opinions with the "other" party in the principal-teacher relationship. Salary could be a sensitive topic, however, we felt we took the necessary precautions needed to establish a trustworthy relationship with our interview objects, which facilitates for them sharing information on a sensitive subject.

We believe that other researchers would observe the same events, and attain the same results as us, when using the same research method, with the same interview guide on other teachers and principals in the Norwegian public educational sector without bias, such as we did. Thus, we believe that our data holds reliability.

4.5.2 Validity

Validity indicates *the extent to which observations accurately record the behaviour in which you are interested in* (Bougie & Sekaran, 2016, p. 137). Validity is often divided between external and internal validity.

Internal validity refers to the confidence one can place in whether data measures a cause and effect relationship (Bougie & Sekaran, 2016). We believe we were able to capture the extent of the causal relationship between bonuses and teachers' performance, because our interview objects were both teachers and principals. This allowed for us to capture both sides of the principal-teacher relationship, which we believed would be of relevance to answer our research question. Because we were able to observe multiple causal factors, we believe our data holds the sufficient internal validity to answer our research question. Internal validity will also be affected by whether or not the data we captured was honest and the true opinion teachers and principals had on how bonuses could affect teacher performance. Because of our limited time-frame during our research process we did not have enough time or resource to travel to all of the interview objects workplace to interview them. We believe this would be the most secure location to capture their honest opinions without interference from external factors. We did however interview most of the objects at their workplace, with the exception of two teachers. However, as argued in the section above, we ensured that the interview objects understood that the data collection was anonymous and that their answers would be kept confidential from other parties of their organization. Thus, we believe we captured the true factors affecting the cause and effect relationship. During the interviews we felt that the teachers elaborated thoroughly and was intrigued by the subject. This could be an indication of that the interview objects shared their honest opinions.

Because we were able to customize our interview guide to ask the exact questions, we needed to answer our research questions, we believe our research reflects the behaviour we were interested in. Because we conducted in-depth interviews, we captured all reactions from interview objects, through observing their body language and facial expressions. Thus, we believe our data holds internal validity.

External validity refers to in what degree data is transferable and generalizable to organizational or field settings (Bougie & Sekaran, 2016, p. 171). Data collection through in-depth interviews is a time-consuming process, which meant that we had to be effective in our interview questions. After we had conducted several interviews, we began collecting the same insights from our interviewees and we felt like we had all the information we needed. We believe this could be an indication of that the data is generalizable, however, we believe our data would hold considerably more generalizability if we had conducted more interviews, or a quantitative questionnaire to complement the qualitative findings. Because we interviewed most parties in the organizational setting, which in our case study is the entities of the Norwegian educational sector, who we believe has the most insight in the relationship between teachers and performance-based pay, we believe our data is transferable. We do however not believe our results are transferable to other educational sectors that the Norwegian, because of our definition of teacher performance, which is based on the characteristics of this sector.

5.0 Characteristics of the Norwegian educational sector

In this section we will present how teachers are evaluated and compensated in the current salary system. We will also present other relevant information which is required in order to answer our research question. To understand how a performance-based-pay could be added to the salary system, insight is needed in how the current system works. The salary system could be considered to be complex and the evaluation criteria presented by the *Directorate of Education* could be considered to be diverse. The main purpose of this chapter is to give an overall insight in the system, which will make the reader able to understand the further arguments of the thesis.

5.1 Current salary system

In this section we will elaborate on the characteristics of the current salary systems for teachers in the Norwegian educational sector.

5.1.1 Tariff agreements

Currently there are two main salary systems in the Norwegian lower educational sector, one for teachers employed in Oslo and one for teachers employed in the remaining districts (KS). The teachers' salary systems are based on tariff agreements, where each teacher receives a minimum wage and a predetermined minimum wage increase based on a number of factors. The tariff agreements provide the employees with stability, and the option to predict a portion of their future salary, while also the opportunity to influence their salary and their wage increases to some degree. The minimum wage and minimum salary increases is determined in the tariff agreement for teachers' in each of the two main salary systems. Teachers who follows these tariff agreements could gain extra salary for taking on additional responsibilities, roles or functions. The amount of additional salary differs between schools and is not decided in the tariff agreements. To give an example a teacher who has the role as *head teacher,* receives between 20.000 and 30.000 NOK in additional salary per year.

In the KS tariff agreement teachers receives a minimum wage, and a minimum salary increase based on their seniority. For every other year teachers are employed at the same institution they will receive a fixed salary step. The minimum wages in the KS tariff is presented in Table 5.

	0 year seniority	2 year seniority	4 year seniority	6 year seniority	8 year seniority	10 year seniority	16 year seniority
Minimum wage	386.200	393 700	401 200	407 200	426 600	446 800	465 300
% of teachers receiving a higher salary	48 %	78 %	83 %	89 %	84 %	93 %	98 %

Table 5: Wages in the KS tariff agreement (utdanningsforbundet.no)

As we can derive from Table 5, the predetermined salary described in the tariff agreements seldom represent the actual salary increase the teachers receive. This is because the teachers often gain additional salary as their career develops based on additional or higher education, distribution of a local salary pool or salary negotiations upon employment. Table 5 shows that only half of the teachers employed 0 years at school receives the minimum wage.

Teachers employed in Oslo generally have a higher salary than teachers in the other regions, this is justified by the higher cost of living in the capitol, by The D*irectorate of Education* (utdanningsdirektoratet.no). There are two other differences between the two tariff systems; Each teacher in Oslo gains seniority salary increases in correlation with each number of years they have been employed at the same institution, and their additional salary increase is based on a predetermined *wage option*. The seniority and the wage option determine which salary step the teacher will receive. The wage options are non-reversible. A teacher could for example receive two additional wage options by taking higher education or from the distribution of a local salary pool. How the wage options and seniority determine each teacher's salary step is explained in Table 6.

		SENIORITY IN YEARS										
		0	1	2	3	4	5	6	7	8	9	10
WAGE OPTION	1	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**26**	**27**	**27**	**28**
	2	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**27**	**28**	**28**	**29**
	3	**22**	**23**	**23**	**25**	**26**	**27**	**28**	**38**	**29**	**29**	**30**
	4	**23**	**24**	**24**	**26**	**27**	**28**	**29**	**39**	**30**	**30**	**31**
	5	**24**	**25**	**25**	**27**	**28**	**29**	**30**	**40**	**31**	**31**	**32**
	6	**25**	**26**	**26**	**28**	**29**	**30**	**31**	**41**	**32**	**32**	**33**

Table 6: Explanation of how seniority and salary option determines each salary step.

Table 7 shows which salary each teacher in Oslo gains for each salary step. We have derived the table based on the red salary steps above.

Salary step	**20**	**21**	**22**	**23**	**24**	**25**	**30**	**35**	**57**
Salary	396.750	401.650	406.350	410 950	418 200	422 600	450.700	487.500	735.100

Table 7: Examples of the salary teachers receives per salary step

The maximum salary a teacher can receive is 735.100 NOK annually, at salary step number 57. At this step a teacher will have 16 or more years of seniority and wage option number 25.

Both systems explain above value further education of teachers and their seniority. Most schools reward teachers who further educate themselves with increased salary. In 2019 a record-breaking number of 11 000 teachers applied for postgraduate[3] which was an increase of about 1.100 applicants from the year before (Regjeringen, 2019). One possible reason for this is that the current salary system provides compensation in the form of salary increase for teachers who adds to their competence through postgraduate positions. This year, approximately 9 out of 10 teachers applied for continuing education in special pedagogy[4].

5.1.2 Differences in the distribution of the local salary pools.

The local salary pool distribution in the Oslo can be characterized as different from other regions. In the regions following the KS tariff agreements these are distributed on the basis of functions and roles the teachers' voluntary take on. In Oslo the principals play a larger role in the distribution process and can recommend teachers who should be eligible for being rewarded these. One criterion which must be fulfilled in order to be eligible is that teachers must have participated in a formal competence increase the last two years. The other criteria for distribution are determined by The Union of Education and the principals. These local salary pool distributions could be considered to be unpredictable as they do not occur each year, and school managers are not informed about the size of their pool. When teachers receive a part of the salary pool, they will get a fixed salary increase, which the teachers keep throughout their career.

5.1.3 Effectiveness of the current system

Kuvaas and Birkeland (2018) have conducted a large-scale research study on the salary of Norwegian teachers and concluded that the local wage increases are currently not providing the intended incentives for teachers. 63 percent of the respondents had previously received local salary increases and found no direct correlation between motivation and the increase in fixed salary or between the size of the pay raises and motivation. According to their research they

[3] supplementary teacher training, continuing education of teachers
[4] special education, special needs education

provide evidence indicating that the potential for a salary increase have negative effect on the teacher motivation. Kuvaas and Birkeland explains the negative effect as a result of the Norwegian teachers being more intrinsically motivated and that teachers feel insufficient *procedural injustice* because of the uncertain characteristics of salary increases. They recommend less focus on salary increases, in order to direct the teacher's attention towards intrinsic motivational factors. A research article from Kuvaas & Dysvik (2008) argues that the notion of procedural justice is likely to be achieved when (1) relevant information is distributed to all parties, (2) all parties' opinions are heard, (3) there is transparency in procedures and criteria, (4) criteria is consequent and impartial and (5) the selection is considered to be impartially conducted.

5.2 Teacher evaluation in Norway

In the Norwegian educational sector, there are currently few defined and statutory guidelines for evaluation. Traditionally, each school's administration evaluates their employees as they see fit in the context of their local targets. Because schools are provided the opportunity to evaluate their teachers as they feel are appropriate, there have been little focus on collective performance measurement. One reason why there is no standardized measurement procedures is because schools have different local objectives, and targets for these objectives.

5.3 Local school objectives

The schools in the public Norwegian educational sector could be considered as non-profit organizations which are mainly independent from each other. Each school have their local objectives and focus points management have developed. Some schools focus on student absence, grades, extracurricular activities and reading skills, while other schools focus on integration or being green and eco-friendly. These local objectives are based on the characteristics of their student body, which can be said to be partly demographically determined. These can also be influenced by driving forces in the local community.

Some schools have also developed local strategic plans for how they plan to achieve these local objectives. These plans are often developed in cooperation with the teachers and published on each school's website so that parents and other stakeholder have the opportunity to familiarize themselves with these. These plans are often developed to address *critical aspects* management observes at their school, e.g. students lack language skills, older student does not monitor younger students, students have low math skills. Teachers' play a crucial party in completing the local objectives and the targets set in the local strategic plan.

5.4 The Knowledge Promotion Reform

To understand what main goals the *Norwegian Directorate for Education and Research*[5] have for their pupils and their schooling, one must have insight in the *knowledge promotion reform*[6] which is presented in a condensed format in Attachment 1. The complete reform consists of the goals and ambitions the Norwegian government have for the teachers they employ. The introduction of the new reform (K 06) in 2006 involved many changes in the teaching content, structure and organization of teaching. The specific purpose of the new reform is to make students the centre of attention in school, to prepare them with basic skills and expertise needed for participation in the *society of knowledge*, and to prepare them to contribute to value creation in society (udir.no).

These guidelines illustrate the diverse and comprehensive focus points that a Norwegian teacher must be aware of and focus on in their teaching. Norwegian teachers are not only tasked with contributing to the development of knowledge, but also to teach the student's how to cooperate with other individuals and to facilitate for the development of an identity and personal ethical. Teachers' are also given the responsibility of teaching their students social and cultural competence and ensuring that the local community is involved in education.

6.0 Presentation of findings

In this section we will present our findings from the nine semi interviews we have conducted. We interviewed both teachers and principals employed in schools in Oslo, Kristiansand, Trøndelag and Akershus. We have structured the findings in subsections with the responses from teachers and principals presented separately.

[5] Norwegian government agency under the Ministry of Education and Research. The Directorate is responsible for the development of kindergarten, primary and secondary education – including vocational training.

[6]The knowledge promotion reform *(education reform introduced in 2006 in primary, lower secondary and upper secondary education and training)*

6.1 Attitude towards the current pay system

Principals

The majority of the principals we interviewed were satisfied with the current salary system. There was a general consensus amongst principals that the system is both fair and well designed for its purpose, and that teachers are compensated sufficiently. When asked if they had any alterations in mind for the current salary system the majority of the principals suggested a higher base salary for teachers. The principals argued that an increase in the base salary would be beneficial both in terms of the recruitment of teachers, as well as for making it a more high-profile career choice.

Two of the principals expressed that the current system could be improved, and that teachers should be compensated relative based on to the complexity of their roles and to the extent of their workload. They meant that the teachers who have additional responsibility outside of their ordinary teaching should be further compensated. They acknowledged that the teacher's responsibility outside of the ordinary teaching is both time-consuming and demands extra efforts. This was mentioned in the context of having demanding students. Another principal mentioned that the teachers who received additional salary steps tend to forget why they received these, and that their motivational effect decreased over time because of this.

When asked about the local salary pool, explained in section 5.1.2, two of the principals argued that there is a large degree of uncertainty tied to the distribution process and mentioned both the size and timeliness of the salary pool as disruptive factors. None of the principals we interviewed knew whether there would be a salary increase provided though the salary pool next year or not. According to one principle employed in Oslo, there was also room for improvement in the criteria for distribution amongst teachers, were the principals and the local government did not always agree upon the evaluation criteria. This principal advocated a more technocratic system where the principals should be the deciding entity regarding which criteria the distribution should be based upon.

Teachers

Similar to the opinions of the principals, the majority of the teachers we interviewed were more or less satisfied with the current salary system. The teachers appreciated that the current system acknowledges each teacher's academic background and seniority. The general consensus among the teachers regarding potential alterations to the current system, are similar to those suggested by the principals e.g. general increase in the base salary for teachers. Two of the respondents were of the opinion that this would be beneficial for the recruitment of teachers' who possess a high level of pedagogical capabilities.

The same respondents were dissatisfied with how the current salary system does not take into account the amount of efforts or time one spends at work or their skills as a pedagogue. They were left with a feeling of injustice when being rewarded the same as teachers' who did not spend the same hours preparing their lectures. One teacher recommended that each teacher should be measured based on their contribution to the completion of the schools' objectives.

One teacher had several arguments regarding the current pay scheme and the lack of variable pay. The teacher elaborated on how teachers receive the same salary regardless of the number or students one has, or the number of special need students one has in their student group. This was a concern, because the teacher felt there was an obvious correlation between the workload and number of students, or number of students with special needs. At a school where the teacher had worked previously, there had been such a system where the teacher had been compensated based on number of students with special needs. The teacher had perceived the reward system as suitable for teachers. When asked about the local salary pool the majority of the teachers did not know when or how this was distributed amongst teachers and said they did not pay much attention towards this.

6.2 Attitudes towards performance pay

Principals

The majority of principals were negative towards implementing performance-based pay in the Norwegian public-school system, and all principals had several concerns with how the such a system would affect teachers. Most of the concerns were regarding issues with measuring teacher performance. Several of the principals also mentioned that the culture in the Norwegian school system is not suited for performance pay. They were afraid that the work environment at their schools would be influenced in a negative way if bonuses were implemented.

Two principals had first-hand experience with performance-related pay in the form of salary increase in the Norwegian public-school system. When they worked as teachers, they were included in the process of developing parameters their fellow teachers should be measured on, in collaboration with school management. Based on their experience they were positive towards the implementation of performance pay in the Norwegian educational sector. They did however express the need for a transparent measurement system, where teachers felt that bonus evaluation were fair. When asked, the principals said that they were convinced that several teachers at their school would welcome the introduction of performance-based pay. They were however uncertain of the teachers' ability to define the "right" measurements to best capture their performance.

Teachers

The majority of the teachers we interviewed were negative towards the implementation of performance pay in the form of bonuses. However, some of them acknowledged the benefits with this type of pay scheme. One teacher had experience with a pay scheme involving bonuses, where these were rewarded on the basis of observable indicators of additional efforts. The teacher elaborated that when some teachers received the bonuses there were uncertainty regarding why the school administration had chosen some of teachers while other teachers were left out. The teacher had observed that the ones who did not receive a bonus felt demotivated and unease because they were uncertain as to why they had not been rewarded for their efforts. Another teacher had experience with a similar system, were teachers were rewarded vacation days instead of additional salary for having a difficult class that was more demanding. This particular teacher was satisfied and felt that the compensation was just and predictable. Three of the four teachers were also concerned with how some teachers might react if some were awarded bonuses and others not. They explained these concerns based on the characteristics of the culture in Norwegian schools, where the teachers are used to being equally treated and most teachers have the same claims and decision-making rights in the organizational structure.

6.3 Teacher motivation

Principals

None of the principals explicitly expressed that they believed pay to be a decisive motivational factor amongst their teachers. However, most of them mentioned that it was important for teacher to be rewarded when they took on additional responsibilities or functions i.e. *head teacher* or *team leader.* The overall majority of the principals did not think that monetary rewards were synonymous with motivation. Most of the principals mentioned that their teachers were motivated by the nature of their work and not external factors. The principals were also of the opinion that praise and acknowledgement motivated teachers.

Teachers

The majority of the teachers felt that they were mostly motivated by seeing an increase in student achievement. Some mentioned that they were motivated by being appreciated and acknowledged for their efforts by school management and colleagues. The teachers we interviewed seem to be mainly driven by intrinsic motivational factors. One teacher explained how motivation would not be altered if the teacher received a bonus. The main motivational factors for this specific teacher was tied to conveying knowledge to the students as well as seeing this result in elevated achievements, while also having a sense of unpredictability in the day to day work with different tasks to execute every day. The teacher also mentioned that working with professional and competent people had a certain motivational effect. One teacher mentioned that bonuses would have a motivational effect, and that additional monetary compensation would have a positive effect on the teacher's willingness to extort additional efforts.

6.4 Teacher evaluation

Principals

The principals had different opinions regarding how the teacher evaluations should be conducted, and the different factors teachers should be evaluated based on. Three of the five principles conducted an annual evaluation process. There are noticeable differences between how each principal conduct these. One of the principals' explained it as an ongoing process which is not formally concluded each year. One principal at another school did not conduct any thorough evaluation of the teachers. Three principles said that ranking their teacher staff would be problematic, while the others felt comfortable with doing this. A combination of factors would be included in such a ranking. The factors that was suggested were; grades, working hours, relations with students, cooperativeness and formal educational.

Some principles elaborated that they received suggestions for teacher evaluation criteria from The Union of Education. There were different opinions on whether or not these were a good fit for their school and evaluation system. One said that they worked as intended while others said that the best criteria were the ones that the principal had implemented and chosen based on school long-term objectives. The following section contains the specific findings on different indicators that were mentioned by the principals.

Grades

All of the principals said they focused on the grades to some degree, but there was an overall consensus that grades were a poor indicator of teacher performance. All but one principal said they for the most part focus on how the student body progresses in their grades, and how their current grades compared to their former. One of the principals said that when the evaluations at their school were conducted, they focused on giving praise when the grades were good and had improved from last year. When the grades were mediocre or low this was not commented on. Most of the principals did however compare their grade developments with neighbouring schools and other schools with comparable characteristics.

Parents and students

One principal mentioned that parents and students could function as a control organ of teacher performance. Another principal said that parents often noticed if their children were not provided the sufficient amount of help or received the necessary attention from their teachers. Such incidents were often reported to the principal. Most principals also mentioned student and employee surveys as tools to capture employee performance.

Flexibility and cooperativeness

One principle said part of the evaluations at their school was based teacher flexibility and cooperativeness, because teachers to a large extent work in teams, and that close and effective cooperation is a key aspect of teacher performance. Being a team player and how a teacher helps co-workers was expressed as difficult to measure by the principals. Flexibility was also considered to be an important factor due to the variations in the timeliness of the amount of work that needed to be done and how this was dealt with by the teachers.

Building relations with students

Most of the principals agreed that good teachers build strong relations with students, which makes the students feel secure and noticed. This was a quality which was described as difficult to quantify was therefore not easily measured. Two principals said they were certain which teachers possessed skill, and one said that this skill would affect their grades.

Extra work hours

All but one principal said that they often focused on giving positive feedback if they noticed that their employees stayed at work after the original work hours over a stretch of time. This was a good indicator for eagerness to improve results and give more of their time to the students according to the principals. They also mentioned that the effectiveness of the teachers could have an impact on how long they stayed at work, along with experience with the same students from earlier, or experience within a particular teaching level.

Additional education and further education

The principals seemed to value teachers who were eager to add to their formal competence. They all agreed that in order to provide their students with a proper education, the teachers needed supplementary education and training.

Ability/Willingness to change

Another aspect that the principals valued amongst their staff was their willingness to change. This was mentioned in different contexts, amongst others in terms of outdated work methods, digitalization and in the use of technological advances. The principals said they had problems with measuring to what degree the teachers were willing to change, e.g. how often or to what extent the teachers implemented new technology in their lectures or differentiated their teaching methods. One principal expressed a demand for additional resources to compensate teachers for their willingness to utilize new and innovative teaching strategies.

A summarized measurement indicator

One principal had suggestion for a suitable performance measurement system which includes many of the dimensions of teachers' performance. This macro indicator was a summary of many of the aforementioned factors. The indicator was described as a summarized score from the staff surveys to capture teamwork skills, student surveys in order to capture their opinion, key grades and test improvements, measurement of ability to change and communicating with parents, further formal education and how the teachers contributed to the accomplishment of this school's specific goals and strategic objectives.

Teachers

Amongst the four teachers we interviewed, all of them had some ideas on how their performance could be measured. They suggested performance indicators which to a large degree were similar to the ones mentioned by the principals.

When asked about their thoughts on what it entails to be a good teacher, three characteristics were frequently mentioned: Experience in building valuable relations with the students, having the necessary competence as a teacher, and being able to lead and organize a class. The teachers said that these characteristics are not easily summarized in one measurement indicator and that teacher performance in general could be considered as unmeasurable. Another teacher meant that building valuable relations with student would unfold in other measurement indicators such as overall test results and on student surveys.

6.5 Other non-monetary incentives and rewards

In this section we will present findings on the rewards and incentives the principals felt would affect their teachers' motivation.

Principals

The principals had different incentives, rewards and tools they made use of to some degree in order to control and motivate the teachers' performance. Two principals said they would not mind more freedom when rewarding their staff, while the other three said they had the necessary tools to incentivise their employees.

Two principals said that the most efficient reward they had was praise and positive feedback, and that most teachers were satisfied as long as they felt acknowledged and appreciated. Communicating praise and feedback would often occur during the evaluation meetings or in other similar scenarios. The principals considered the teachers to be internally motivated and because of this, additional extrinsic rewards were perceived as irrelevant for their motivation.

One principal said that as long as the work environment was considered to be satisfactory and the teachers were satisfied with their workplace, this would have an impact on their motivation. This was supported by a second principal who mentioned work environment as the most positively influencing factor in relation to teachers' motivation.

When asked what type of rewards they wish they had at their disposal, two of the principals mentioned that they wish they had additional funds to reward the teachers who were tasked with the most challenging classes i.e. containing the most demanding students. This task was often handed to the teachers who had performed well over time and had proven themselves to have extraordinary relation building abilities and were willing to put in the extra work. The two principles described this as a paradox because they were handed a difficult class for no extra salary or other tangible rewards because they were great teachers. They recognized that this could influence the teacher's motivation, because their work environment would always be more demanding than for some of the other teachers.

One principal did not want to hand out bonuses and would rather disguise the bonus as a project salary, where a teacher would receive extra salary for participating in a competence sharing or learning project. This project-based salary would be a one-time payment after the completion of the project. The principal elaborated that the purpose of the project would be based on school objectives, which would make the project beneficial for both the teacher and the completion of the local objectives.

One reward two of the principals mentioned was extra time off, or additional time to complete their work tasks. This could be arranged by hiring substitute teachers to relieve the teachers of some of their more simplistic teaching chores. They said their teachers would not mind extra days or hours off, despite of the fact that most of their employees enjoyed their work. One principal mentioned that when a teacher was handed a difficult class or project, the teacher was awarded two hours off each week.

6.6 The effect on attraction and retention of teachers

Principals

The principals had different opinions on whether or not pay-for-performance would have an effect on the attraction and retention of teachers. One principal employed in Oslo could imagine using bonuses as a tool for retaining well performing teachers. The negative aspect mentioned in this context would be that the principal in some scenarios would have to use the pay-scheme for rewarding the teachers he was dependant on retaining, and not those who had the best recent performance. The principal added that these were often the same person, meaning that the teachers the school would benefit most from retaining, were also the ones who had the most satisfying recent performance. Two other principals said that they believed some teachers valued the seniority aspect of salary they had gained and were therefore reluctant to move to another school. Two other principals concluded that it was unlikely that the teachers took their salary into consideration when switching schools, and that when the teachers wanted to move, it was mainly for practical reasons. All but one principal believed that implementing a pay-for-performance scheme would result in a lower turnover rate amongst their teaching staff.

When asked whether or not a bonus system would help with the recruitment of teachers, all principals agreed that this would not be the most influential factor. Two principles meant that a pay-for-performance scheme could help attract young teachers with a hunger for higher salary, because of their financial situation with high student loans and less financial independence. Another argued that young teachers were less likely to receive pay-for-performance when evaluated in relation to elder teachers with more experience.

Teachers

Most teachers were of the opinion that bonuses would not help with the recruitment and retention of teachers, and that an increase in their base salary would be more beneficial. One of the teachers was however of the opinion that performance-related pay would be of significant purpose in the recruitment of talented teachers now and in the coming years. The implementation would make the school system more competitive compared to private businesses who could tempt teachers with higher salaries. The teacher was of the opinion that teachers would be motivated by being compensated for their performance. It was also mentioned that the absence of fair compensation for delivering results could be demotivating.

6.7 Individual and team-based performance-pay

Principals

When asked whether an individually or team-based bonuses would have the most effect there were different opinions amongst the principals. Most principals were however in favour of group-based rewards as opposed to individual. Several of the principals argued that team-based rewards and evaluations were the most beneficial because it was difficult to separate one teacher's result from the results carried out by each team. One principal suggested team-based rewards in a social context such as receiving funding for a trip or seminars, and not monetary rewards. One principal disagreed and argued that if bonuses were to be implemented, these would have to be distributed based on individual efforts. This was based on the reasoning that most teams had different types of teachers with different priorities, efforts and attitude towards incentives. The principal did however fear that an individually based incentive system could have a negative impact on teamwork and results. One principal was especially negative towards evaluating and rewarding teachers on an organizational level, and said that there was a large risk of teachers criticizing the other teams and blaming the lower performing teams when not reaching a organizational goal. Two of the principals said that teachers seldom help out other teams, and mostly keep to their own team.

One principal explained that at their school, their specific organizational structure was heavily based on team work, where teachers were obligated to spend a certain amount of their workday on team-based work. Regardless of this, team-based evaluation met a negative attitude amongst the teaching staff because the teachers devotion and dedication were at such different levels, and that teachers' were aware of distortions where some of their co-workers would benefit and utilize the distortions.

6.8 Summary of findings

Through the interviews we conducted we got in-depth information on how teachers' and principals across different regions view the current salary system. We were also able to get to know their attitude is towards performance-based pay. The vast majority of the respondents are satisfied with the current salary system, and valued the fact that teachers are compensated based on seniority and formal education. The respondents did express an interest for bonuses but most were not in favour of such a system and expressed concerns tied to issues with the measurability of teacher performance, and the culture present in Norwegian public educational sector. When asked about teacher motivation, most of the respondent believed that pay is not a decisive motivational factor, and that most teachers are intrinsically motivated. The principals we interviewed had different evaluation procedures, some were more formal and structured than others. Most of the principals based their evaluation on different indicators of teacher performance. Some of these were grades, surveys, working hours, creating valuable relation with students, cooperativeness and formal competence. Because the principals did not believe in additional monetary compensation, they suggested other rewards they had experience with. Some of these rewards were praise and acknowledgement, time off, autonomy and project-based salary. Most principals were in favour of team-based rewards because of issues tied to isolating individual efforts and because of the fear of internal competition within the teams.

7.0 Analysis

In this chapter we will present the analysis of our interview findings. Our analysis will be linked to relevant theory and empirical evidence derived from the literature review. In line with our two folded research question, we have divided the analysis in two separate sections.

In the first section we will analyse the effects bonuses could have on teacher performance. In order to thoroughly assess this first part of our research question, we first have to analyse the current salary system and how it affects teacher performance, afterwards we will analyse the teachers attitude towards a performance-based pay system. The reason for this is because their perception of the system could have an effect on their behaviour and eventually their results. If teachers' have a negative attitude towards performance-based-pay, this could influence their performance in unintended ways. Further on we will assess the motivational factors we have found teachers' to be driven by. How the compensation system affects teacher motivation will shape their decisions and mould their behaviour, thus we will analyse how monetary rewards affect teacher motivation in this section. As a final focus point of our first analytical section we will assess how other rewards than monetary could affect teachers' performance.

In the second section of the analysis we will discuss the main challenges and possibilities we have found to be associated with designing and implementing a pay-for-performance scheme in the Norwegian public educational sector and discuss how these could play out. We will start with assessing how the current evaluation procedures deal with performance and potential issues which could arise when measuring teacher performance. According to economic theory, measuring employees will always be a central aspect when implementing performance-based pay (Merchant & Van der Stede, 2017). Further on we will assess the negative consequences of behavioural displacement and challenges related to changing the compensation system. In the final section of the analysis we will assess how the possibilities benefits associated with implementing pay-for-performance could play out amongst Norwegian teachers.

7.1 How bonuses could affect teacher performance

In this section we will analyse how pay-for-performance in the form of bonuses could affect teacher behaviour and efforts, and eventually performance. First, we will analyse the current pay-scheme and investigate how it incentivizes teachers.

7.1.1 Current salary system

An overview of the current salary system is given in section 5. The opinions the teachers and principals have on this system will be analysed in this section. Their views on the system were divided, and in some cases conflicting. Teacher (2) had the following to say about the current salary system:

"(...) because the current system rewards teachers based on their formal competence and their seniority, I am satisfied".

As this teacher mentions, there are observable benefits associated with the current remuneration system. One of these is how the system incentivized teachers' to further educating themselves and participate in procedures to enhance their formal knowledge level. Learning is characterized as an informal control instrument by Ax et al. (2010). Further development of an employees' formal competence is important in most professions, and according to the Norwegian government, one of their focal points when distributing funds to the Norwegian educational sector (regjeringen.no). The current system also recognizes teacher's seniority i.e. work experience. This aspect of the current system encourages teachers to stay in their profession, because they will receive higher salaries because of this.

Incentivizing these two aforementioned factors will to some degree ensure growth in human capital and that the human capital stays in the educational sector, which could be considered to be paramount in modern organizations according to the views of Langeland (1999). By incentivizing teachers to further educate themselves and become better teachers, this will contribute to making teachers more capable of executing the objectives of *the knowledge promotion reform,* while also some of the local objectives like increasing student reading and writing skills, thus increasing teacher performance according to our definition. Teacher (2) mentions another positive aspect of the current salary system.

"I am comfortable with the current system (...) I always know what I will receive in salary each month (...) most of the times I receive salary increases I know when these will come"

Because the two salary systems (KS & Oslo) rewards teachers with salary increases based on seniority and whether or not the teachers have increased their formal competence, teachers' have a foreseeable future salary growth. The system is thoroughly explained in the tariff contracts available to the public on their website (udir.no). Thus, teachers' have the opportunity to investigate their compensation plan and familiarize themselves with its characteristics. According to Gabrielsen et al. (2007) incentive systems who are stable, predictable and transparent will have a more positive effect on motivation, which could be argued to most likely have a positive effect on teacher performance. As the finding above implies, the teacher does not feel uncertainty about future salary and perceives the system as stable. The system could also be characterized as transparent because it is available for investigation. Based on Gabrielsen et al (2007) and the reasoning above, the characteristics of the system facilitates for employees to be motivated, which could increase performance.

The tariff system in Oslo could be described as more unpredictable than the KS tariff system, because there are more personal alterations and an uneven distribution of the local salary pool at some schools. While the system is more unpredictable, the seniority and competence increase does however amount to most of salary increases and could because of this be described as the foundation of the salary level and salary increases. Based on this reasoning, the Oslo based system could be considered as more unpredictable and unstable, but its foundation still holds the characteristics mentioned by Gabrielsen et al (2007).

The stable, predictable and transparent nature of the current system, and the salary increases based on seniority and formal education could be considered as positive aspects of the current system. These are factors risk averse employees will appreciate, which is suitable for the educational sector based on empirical evidence by Bowen et al. (2014), arguing that teachers are generally more risk averse than the average population. These characteristics could be considered as some of the main reasons why the teachers we interviewed were satisfied with their current remuneration plan. However, while the respondents had positive remarks, they also mentioned shortcomings with the system. Teacher (4) elaborates:

"Teachers are stuck making less money than other professions with the same education. A teacher could have an academic background in geosciences, which makes him eligible to work at an oil platform in the Barents-Sea and earn three times the amount of what he makes today. The current system has few opportunities for earning more if one has such an interest, either through fixed pay or variable".

A common remark amongst the respondents was the generally low salary teachers receive in comparison to similar professions in the public sector, with a comparable educational background. The teachers argued that changes in the salary system could contribute to lifting the reputation of teaching as a profession and make it more preferable in relation to other occupations with generally higher salaries. They often mentioned this in relation to the recruitment and retention of teachers, described by Bragelien (2011) as one of three possible control benefits. Empirical evidence from a study conducted in England shows that teachers tends to move towards areas where teachers' salary level is higher (Britton & Propper, 2015). This could be considered as an indication of a need for more leeway to retain teachers in the management control systems in schools. The principals did however not concur and explained situations where teachers change schools as a result of practicalities.

Employees' tend to compare themselves with other employees they find situational compatible, either internally or in other companies (Adams, 1963). When employees perceive significant differences in treatment, they could feel unease and become demotivated (Kaufmann & Kaufmann, 1998). The teachers we interviewed often compared their salary to employees in other occupations and expressed a dissatisfaction because they felt they utilized the same efforts and sacrifices as these. This observed phenomenon could lead to demotivated teachers according to theory on unjust incentive systems by Kaufmann and Kaufmann (1998). Employees who lack motivation is characterized as the second cause for management control problems by Merchant and Van der Stede (2017). Another shortcoming expressed by both the teachers and principals was the lack of rewards based on additional efforts. Teacher (3) elaborates:

"Teachers in a class with 30 pupils receives the same salary as a teacher with 25 pupils (...) one would have to attend more parent-teacher meetings, and correct more tests results"

The teacher implied that the number of students they teach should have an effect on the remuneration, because additional pupils requires teachers to extort additional efforts which other teachers might not encounter. According to theory by Pink (2009) motivation is often higher when there is a strong link between efforts and rewards, and when the link is weak, this could lead to dissatisfaction and demotivation. Based on the remarks by teacher (4) and relevant theory, the lack of variable pay based on additional efforts in the educational sector could lead to demotivated teachers. One principal (3) had similar remarks regarding teacher efforts, from a management perspective:

"(...) a teacher spending an above average amount of time planning their teaching lessons is paid equally to a colleague with the same level of competence and seniority, who does not prepare for lessons with the same amount of endeavour. What's lacking is compensation for the additional efforts by teachers".

As we can derive from the aforementioned remarks by teacher (4) and principal (3), employees in the Norwegian public educational sector acknowledges weaknesses they consider to be a frustrating aspect of the current system. While most of the teachers recognized that additional compensation for taking the role as *head teacher* was a fitting, there were other easily quantifiable aspects of their work they believed should be compensated. In addition to weaknesses regarding the generally low pay and the lack of variable pay based on efforts, principal (3) also mentioned one weakness in regard to the salary increases and the fact that these are non-reversible.

"The current salary increases have little effect in the long term, because employees forgets why they were awarded these increases after a while"

Because the salary increases are non-reversible, the marginal motivational effect per salary unit will decline over time. Our findings are similar with the ones from research conducted by Kuvaas and Birkeland (2018), where 63 percent of the respondents had previously received local salary increases. In their research paper they find that whether the teachers received a salary increase or not, had little to no correlations with the respondents' motivation, which can be derived as a failure to fulfil the effort-inducing benefit of incentive systems described by Bragelien (2011). The research paper explains the lack of motivation as a result of teachers' being more intrinsically motivated, and not easily affected by external rewards. Kuvaas and

Birkeland (2018) further argues that the salary increases have little effect on the long-term performance of teachers.

In this analysis based on empirical evidence and relevant theory, have found both arguments for and against aspects of the current salary system. In the following section we will present an analysis of the teachers and principals' attitude towards performance pay in the form of bonuses. The *bonuses formula* we are investigating is annual monetary bonuses based on pre-set performance targets, described as Bonus System 1 in Figure 2.

Researchers have presented evidence suggesting that the implementation of performance pay could improve the current public-school system (Lavy, 2004; Figlio & Kenny, 2003). Empirical evidence also suggest that performance pay could have a mixed influence on teachers' effectiveness (Eberts, Hollenbeck, and Stone, 2002; Glewwe, Ilias, and Kremer, 2003). In the following sections we will try to assess whether the Norwegian teachers' attitude towards bonuses could have an effect on their performance.

7.1.2 Teachers' attitude towards performance pay

When asked about their thoughts on the implementation of annual bonuses in the Norwegian educational sector, the teachers and principals were overall negative, which is in line with conventional wisdom on the subject according to empirical findings by Podgursky and Springer (2006).

During our interviews we uncovered that some of the teachers and principals were concerned with the culture in the Norwegian public educational sector. Some teachers and principals argued that a cultural change was needed in order for the system to have a positive influence. Especially the principals were worried that performance-based pay could have a negative impact on teachers' performance. One principal (3) had the following remarks:

"Teachers are very concerned with the fairness of the reward system. When someone receives additional compensation or is treated differently there tends to be gossiping and disagreements"

The principal elaborates that there is a general tendency amongst teachers to be concerned with not receiving a "fair treatment" from management. This finding resembles the findings presented by Kuvaas and Birkeland (2018) who found that teachers are concerned with the *procedural justice* of rewards and evaluations. When the perceived procedural justice is low, this could affect teacher motivation and their thoughts on management negatively. Based on this assessment, the bonus system would have to be developed according to Kuvaas & Dysvik's (2008) assessment of how to achieve procedural justice; (1) parties must receive relevant information, (2) opinions are heard, (3) there must be transparency in procedures and criteria, (4) criteria is consequent and impartial and (5) the selection is considered to be impartially conducted. Principal (5) had complementary views to principal (3):

"In my opinion, relative to the situation today it would demand a cultural change. Teachers are accustomed to cooperating in teams where they are perceived as equals, and most have the same salary. If one were to differentiate this it would undoubtedly be noticed (...) the effects could be diverse, and not entirely positive. For me personally I prefer not to be involved in a system of this nature because I believe it would mean a lot of work for relatively modest returns".

Teachers seem to be accustomed to receiving equal treatment and rewards. Introducing a new salary system where this would be altered, could affect teachers' performance negatively. Teachers' self-belief could be altered as they would not perceive team members as equals anymore. Organizational culture is characterized as an informal control instrument by Ax et al. (2010), which could direct employee focus towards the organizational objectives if implemented correctly. In the Norwegian public-schools however, it seems like bonuses could shift the focus away from school objectives, and towards comparing each other's salary. If their focus is shifted away from their own performance and the prosperity of their students towards being more concerned with their unequal treatment compared to others, this could be considered as a negative effect on their performance.

In accordance with motivational theory by Adams (1996), employees are generally concerned with the treatment they receive compared to other employees' they perceive as equals (Kaufmann & Kaufmann, 1998). While it seems like teachers are concerned with how other professions are paid relative to their own, as discussed in section 7.1.1, they also seem concerned with how their salary compares to their colleagues. In a future scenario where bonuses are implemented, this could involve motivational issues because teachers could perceive the system as unjust, which could eventually affect their performance. It also seems like the above-mentioned principal (5) does not want to be involved in ranking the teachers and distribute rewards thereafter, which was the general consensus amongst principals. This is considered as a fruitful management decision according to theory by Pink (2009) arguing that when employees feel they are not rewarded fairly, this will affect their attitude towards management negatively. This argument is based on our findings indicating that teachers often would not consider differentiated rewards as fair.

According to our findings and relevant theory, introducing a performance-based pay system could have a negative impact on teacher performance because of the culture and salary traditions we observed to be present in Norwegian public schools. Bonuses does not seem to fit the current culture, and therefore there would have to occur a cultural change for the system to enhance performance, instead of affecting motivation negatively.

When asked, principal (4) had the following remarks regarding performance-pay in the form of annual bonuses, which articulated the common theme of the answers in a suitable manner.

"The idea sound borderline impossible because we would have trouble measuring the diverse dimensions that is "teacher performance". Being a good teacher is a result of many factors and measuring these seems immensely complex. Regardless of how one measures these dimensions, they would never tell the whole story"

As explained by the principal, both measurability and fairness in the distribution of performance-based pay are factors which could have an impact on teacher performance. Kuvaas and Birkeland (2018) found that it is the criteria the teachers are measured on which offer significant meaning to the teachers. Most principals agreed that the very nature of teaching is not easily measured and to a lesser degree quantifiable. It is the complexity and the various dimensions of teacher performance many of the respondents' points to as the paramount factor which would be a challenging element when measuring results in a fair and reliable manner. This reasoning is in line with empirical research conducted by Murnane & Cohen (1986) where they argue that teachers' performance is not readily measured, and that the teaching profession is more difficult to measure than other professions. The findings are also in line with arguments made by Goldhaber et al. (2005) critique against performance-based pay in the school system.

Based on our findings and multiple empirical studies we have found that employees in the educational sectors believe that the performance of teachers is difficult to measure. Further in the analysis we will discuss why this performance is difficult to measure.

The following remarks were mentioned by principal (1) and (3) as well as teacher (2), regarding what it means to be a good teacher.

"Being professional and having the ability to build good relations with their students, and obviously a good knowledge base in their assigned subjects (...) being a good class leader is also important and having the ability to adapt to changing circumstances.

"Academic competence, their general ability to communicate with student, and their ability to use easily understandable practical examples to teach a challenging syllabus".

"(...) being a team player, perceive the needs of their students and being able to use their competence to the full extent"

These interview objects suggest that there are several characteristics which are synonymous with being a good teacher. Most of these are difficult to measure and not easily quantifiable in accordance with literature by Murnane & Cohen (1986). It is difficult to measure a person's ability to build relations, and whether or not a person could be considered as a team player. Measuring this ability depends on each individual's perception and behavioural preferences. Cooperating abilities are also contextual which makes their abilities as a member of the team dependant on both time and place. Kaufmann and Kaufmann (1998) argues that each person's perception of one another will be influenced by their views on stereotypes, their first impression, need for social stimuli and compatibility. Class leading skills are also based on individual preferences and will depend on the students. These could therefore be characterized as a subjective measures of performance, which holds personal bias. Economic literature argues that subjective and objective measures should be mixed when measuring performance (Baker et al., 1993). Merchant and Van der Stede argues that subjective performance measures have undeniable advantages, because of the opportunity to correct for flaws in results measurement. However, teachers seem to have little faith in management to measure and reward with *procedural justice.* The aforementioned reasoning implicates problems with achieving the following dimensions of procedural justice; (4) criteria is consequent and impartial and (5) the selection is considered to be impartially conducted.

The accomplishment of the objectives in the *knowledge promotion reform* (Attachment 1) is characterized as a dimension of teacher performance in our thesis. Some of these objectives could be considered to be in line with the above-mentioned findings, such as being able to communicate effectively. Most of these objectives could be considered as difficult to measure, such as *ensuring that the local community is involved in the education in a meaningful way* or to *stimulate pupils and apprentices/trainees in their personal development*. The focus points presented by The Directorate of Education, and the findings from our interviews illustrates the complex and various dimensions of teacher performance, in line empirical evidence found by Murnane & Cohen (1986).

According to Pink (2009) performance needs to be measured and evaluated in order to be rewarded, and because of the potential measurement issues mentioned above, implementing performance-based pay could result in unintended effects. These unintended effects could negatively influence teacher performance, if the measurement system is not correctly implemented. The performance measurement system annual bonuses are based on could either be individually, group or on the organizational based (Pink, 2009). The principals' argued that it could be difficult to reward teachers' individual performance, because it is difficult to measure their separate efforts. Principal (2) elaborated:

"(...) the students receive mentoring and teaching from many angles (...) isolating each teachers contribution to the aggregated student's knowledge is impossible"

As we can interpret from this statement, the measurability issues are also connected to separating each teachers' performance from one another. Empirical evidence shows that measuring each teachers' contribution to the wholesome achievements of overall school objectives are also difficult. This critique is considered to be the second argument against performance pay in the "nature of teaching" hypothesis by Goldhaber et al. (2005). Pink (2009) suggests that it is often beneficial to allocate rewards on the basis of groups because isolating each individual contribution to a collective accomplishment could prove difficult. By rewarding teachers based on group efforts, one could avoid the issue with measuring separate efforts. Bonus schemes based on teachers' group-performance is supported by arguments made by

Podgursky and Springer (2006). However, group bonuses could affect teacher performance negatively as suggested by principal (1):

"There are large variations within each team and I believe group based bonuses would result in difficulties, because teachers are aware of their own efforts and how these compare to the efforts of the other members of their team (...) teachers have more ownership to some group projects than others, and have been part of these from the beginning (...) they know which teacher who have contributed less to a project".

According to theory by Merchant and Van der Stede (2017), incentivizing groups based on their collective efforts could result in the free-rider-effect. Prendergast (1999) explains the free-rider-effect as a problem where team members receives smaller returns relative to their efforts. Principal (1) indicates that the free-rider-effect could become a reality if bonuses were introduced in the public Norwegian educational sector, by expressing concerns with how teachers contribute unevenly in teams and have different roles and ownership to their projects. According to theory on the free-rider effect, employees tend to display feelings of frustration and despair when others are rewarded benefits on the basis of non-contributing efforts. Even though the problem of *free-riders* could affect the group dynamics negatively, empirical evidence shows that team-based bonus systems could have a more positive effect on teacher performance than individual bonuses. Economic literature by Kandel and Lazear (1992); Vyrastekova, Onderstal and Koning (2006) suggests that team incentives may work well in small teams and that mutual monitoring in addition to an easy information flow could help reduce the free-rider-effect. As most teams of teachers consist of a few members, it is likely that these members could monitor each other and communicate effectively.

Another argument for group-based bonuses as opposed to individual bonuses is based on the fact that schools are heavily dependent on collective team efforts, and for the teachers to cooperate in groups, as teacher (4) displays by saying:

"on a day to day basis our school is heavily centred around cooperation and it is important for the students that we as their teachers act in accordance with each other"

Allocating rewards on the basis of individual performance is not in line with the characteristics of teaching because competition does not benefit the long-term objectives of schools. This argument is in line with empirical evidence by Podgursky and Springer (2006) discovering that performance-based pay on the basis of individual efforts could be harmful to the collaborative relationships between teachers, and between teachers and school management. Furthermore, Adnett (2002) argues against rewarding individual performance because of its potential harm towards the *collegiate ethos*. A reward system put in place based on individual efforts in the public educational sector could have a negative effect on teachers' performance and student results, because teachers could become more concerned with competing for bonuses. Adnett (2002) also finds that information asymmetry, externalities and teamwork effects can provide a rationale for encouraging professional motivation. Teachers have different competence, experience and attributes and by working closely in teams they complement each other, and their performance could be better because of information sharing and helping each other in their work.

Based on empirical evidence, relevant economic theory and findings from our interviews, it seems more beneficial to implement bonuses based on group efforts rather than individual efforts because teachers are dependent on collaborating in teams in order for school objectives to be achieved, and because it is difficult to separate each teacher's contribution to each student. The free-rider-effect could however become an issue, but because the teams of teachers are relatively small, this effect could be reduced according to Kandel and Lazear (1992); Vyrastekova, Onderstal and Koning (2006).

As discussed so far, the interview objects we talked to explained their negative attitude as a consequence of the culture in the public schools and issues of measurability associated with teacher performance. The measurement issues are mentioned as a consequence of teacher performance having complex, various and unquantifiable dimensions, and that teachers work in teams which makes their efforts difficult to separate. These arguments are in line with those presented in the empirically acknowledged hypothesis "the nature of teaching" by Goldhaber et al. (2015).

According to empirical evidence by Podgursky & Springer (2006) teachers' attitude towards performance pay is either altered in a positive or negative way when they are exposed to this type of pay scheme. Witham (2008) finds that teachers attitude towards the system is altered in a positive way, which could imply that the effects could be positive in the long-term. Based on empirical evidence, Norwegian teachers' attitude towards performance pay could be altered when being exposed to this type of incentive system. However, because Norwegian teachers could have different characteristics and attributes than the teachers in the above-mentioned research projects conducted abroad, it is difficult to say if the same results would in fact become a reality if studies were conducted on Norwegian teachers.

So far, we have analysed and discussed some potential motivational effects derived from theory and empirical studies. In the next section we will assess how the teachers believed such a system could affect their motivation and their personal opinion on teacher motivation.

7.1.3 Performance pay and motivation

One aspect which could have an effect on teacher performance is how bonuses could potentially motivate teachers as an extrinsic reward. In order to determine this, an analysis of teacher motivation is needed. The interviewees were divided in their opinions on which factors that motivates teachers. Teacher (2) had the following remarks regarding this:

"I am motivated by having variable work tasks and by having a work environment which enables me to concentrate on the work assignments I consider important. I am also motivated by the fact that each day as a teacher comes with different challenges and situations, you never know what to expect"

As this finding shows, the characteristics of the work environment and having an exciting and challenging job contributes to this teacher's motivation. Theory by Alex et al. (2010) suggests that work environment could have important motivational effects, which teacher (2) relates to. Additionally, motivational theory by McClelland (1978) suggests that employees could be motivated by interacting with others. In the job characteristics model by Hackman and Oldham (1975) the opportunity to use a variation of job skills, is mentioned as a central motivational factor. Teacher (1) mentioned other motivational factors:

"I am motivated by leading and mentoring students, and contributing to their education and academic advancement".

As this teacher mentions, leadership stands as a central motivational factor, which fits theory by Herzberg (1997). As a general consensus, none of the respondents mentioned salary as an influential motivational factor. These findings do not imply that teachers are not motivated by salary, it does however indicate that their salary is not the aspect of their work which determines the direction, intensity and duration of effort the most (Pinder, 1998). Kuvaas and Birkeland (2018) does however argue that salaries have little motivational effect on Norwegian teachers.

When asked directly if salaries had a motivational effect on teachers, principal (5) had the following answer:

"No (...) they often want some additional rewards if they receive a new work assignment which they have never had before, they often ask for time, and sometimes salary (…) in the big picture the salary is not that important"

As principal (5) is implying in line with several others mentioned earlier, teachers are not exclusively driven by the prospect of additional salary, but they want compensation for exerting additional efforts. As theory by Merchant and Van der Stede (2017) suggests, additional salary can take many forms, both as performance pay or compensation for additional work tasks. Some teachers wanted to be compensated for having additional responsibilities and work tasks, however this is not considered as performance pay. This above-mentioned opinion was frequent, but not unanimous as teacher (4) declared:

"I feel I would be motivated by monetary compensation in the form of an elevated salary. This could provide me with the necessary impetus to carry out additional efforts (...) I would have been willing to spend more time at work than I am obligated to".

This finding shows that not all teachers are of the same opinion regarding salary, and that some are motivated by this type of reward. As teacher (4) elaborates, additional salary could affect behaviour, which is in line with our definition of motivation (Busch & Vanebo, 2005). Furthermore, the finding is in line with empirical evidence by Hammond (2000) who found that teachers work harder or more effectively when they are given more handsome salary.

According to cognitive motivational theory by Kaufmann and Kaufmann (1998) humans are conscious, rational and calculating decision-makers, who expects some type of reward from their work, either intrinsic of physical, monetary or verbal. The aforementioned remarks made by teacher (4) and principal (5) indicates that teachers have expectations for rewards which might not be fully satisfied in the current system. These aforementioned findings also imply that teachers have different opinion as to what motivates them. When asked directly about salary, the majority of our respondents pointed us in the direction of other motivational factors which were not extrinsic, as teacher (2) says:

"I am motivated by working with young people and contributing to their development (...) last year I was a part of a project where we elevated the language skills of a set of students which was very successful, such accomplishments gives me a lot of motivation, I know that this project will contribute to the future of those students".

The remarks made by teacher (2) could be viewed in relation to behavioural motivational effects, where the teachers are motivated by their achievements in line with theory by McClelland (1978), and self-actualization in line with motivational theory by Maslow (1943)

The above-mentioned findings points in the direction of teachers being more driven by internal motivational factors than external. These findings are synonymous with the findings of Kuvaas and Birkeland (2018) in their research on Norwegian teaches. Internal motivation refers to behaviour driven by inner motivational effects. These could give satisfaction, joy or meaning related to the tasks we are performing (E. L. Deci, Connell, & Ryan, 1989). As empirical studies show, internal motivation is moderate to strongly related to work performance and even more strongly related to tasks which are not easily quantifiable, such as in the teaching profession (Cerasoli, Nicklin, & Ford, 2014). Teachers could also be characterized as prosocially motivated, as our earlier findings show that teachers' value being treated fairly at work (Batson, 1987). This is confirmed by Kuvaas and Birkeland (2018) arguing that evaluations must contain *procedural justice* or else they might demotivate Norwegian teachers.

Our analysis shows that Norwegian teachers are to a large extent driven by factors which are not consistent with monetary rewards. This significant finding implies that the potential motivational effects pay-for-performance could have, are not likely to affect teachers in the Norwegian educational sector in the intended way.

In situations where employees are driven by internal motivational factors, external rewards could have contradicting effects relative to the intended purpose. In line with our findings, typical external interventions such as command systems and financial incentives might decrease teacher motivation. If these external interventions are perceived to be controlling, they are expected to crowd out intrinsic motivation (Jacobsen, Hvitved, and Andersen, 2013). In relation to our research question there is a chance that teachers will percept the management control in the form of bonuses as controlling and therefore decrease internal motivation, which could eventually have a negative effect on teachers' performance.

Other significant observations we made regarding the motivational effect of rewards, was the influence other non-monetary rewards could have on teachers' motivation. In the next chapter we will analyse how these other rewards could function as potential supplementary or complementary rewards to annual monetary bonuses.

7.1.4 Supplementary and complementary rewards to annual bonuses

When we asked the principals to mention other rewards which could motivate teachers to enhance their performance, they had a few in mind. These will be analysed in this section.
Principal (2) had the following remark regarding rewards which could motivate teachers:

"I often find that praise and acknowledgement have a significant motivational impact on my teaching staff. Commenting positively on their accomplishments and acknowledging their abilities provides them with a motivational boost. In my position, giving teachers the freedom to choose their own teaching methods is also something I feel is meaningful. I give my teaching staff a large degree of freedom and responsibility and in return I expect constructive contributions".

Praise and acknowledgement could be considered as a less costly rewards than salary and could have the same motivational effect (Herzberg 1997). Because of the budgetary restraints which are present in the Norwegian educational sector, such rewards could be fitting. Another less costly reward the principal mentions are autonomy, which is described as an intrinsic motivational factor in *Theory Y* by McGregor (1960). According to theory by Buchanan et al. (1988), empowerment, responsibility and decision-making authority could make employees feel more ownership to their work, which could also motivate. As principal (2) indicates, this could be the for case for his teaching staff, who are motivated by having freedom to choose their own teaching methods, based on what they perceive as both important and interesting.

At several of the schools we found that digitalization of work methods was one of the local objectives. By having autonomy to choose work methods, some teachers had dismissed this aspect of the management focus and chose to continue with their "outdated" methods. This observation indicates that autonomy and freedom amongst employees could result in situations where they choose their own work methods which is not necessarily in line with what is desired by the management. Based on findings and relevant theory, autonomy could both lead to motivated teachers, and teachers' choosing to direct their efforts towards objectives which are not in line with organizational objectives, which is the ultimate objective of management control systems according to Robert Simons (1987). While *centralization* of decision-making is frequent in many smaller businesses with strong management, a decentralized structure implies giving the organizational entities accountability and responsibility for executing the organizational strategy and reaching strategic goals (Merchant & Van der Stede, 2017) As a summary of this section, decentralization of decision-authority on teaching methods is expected to increase teachers performance because they will feel more ownership to their work. This could come at the expense of completing local strategic objectives.

Principal (5) mentioned other rewards with motivational effect:

"Other rewards are time off or ways to make their day a bit less demanding. If they have a difficult class or many time-consuming tasks I could hires substitutes to relieve them of some of their teaching chores, so they would have more time to prepare lectures (...)."

This answer indicates that some teachers value other extrinsic rewards than monetary, like vacation days and having sufficient time to complete all their work tasks during their mandatory work hours. Not being able to finish work tasks could be characterized as a hygiene factor in relation to management and work policies, which could demotivate teachers (Herzberg 1959). By facilitating and relieving the teachers of some demanding parts of their work, school management could motivate teachers and make sure that they are not exhausted by their teaching chores and enable them to deliver a peak performance when they interact with students. This could be argued to affect teacher performance positively. Principal (5) also mentioned that facilitating the teachers work environment has a motivational effect:

"(...) feeling that they are able to do their jobs (...) having a working environment which enables them to concentrate on the work assignments they consider important".

A good work environment could provide teachers with reassuring surroundings and the possibility for easy information flow and close relationship between colleagues. Teachers perceiving their work environment as comforting would have a positive influence on their motivation and in turn their performance. Motivation through aspects of their work environment is previously mentioned in this thesis and finds theoretical basis in Ax et al. (2010) and Kaufmann and Kaufmann (1998). Principal (4) suggested rewarding teachers with project-based salary instead of annual bonuses.

"I would not hand out bonuses because the teacher was performing well (...) I would ask the them to participate in an earmarked project on e.g. class leadership, and give salary based on this project. The scope of the project would be based on our school objectives and strategy".

This was a suggestion one of the principals mentioned as a potential extrinsic group-based reward where teachers receive a one-time payment as salary for participating in a learning project. A typical project was described as a project where a group of teachers would participate in a course on e.g. class leadership or the use of digital tools and educating the other staff on what they have learned afterwards. Such a reward could be beneficial because of the potential for a positive contribution towards team dynamic and the enhancement of teacher competence. By basing the project theme on the local objectives, this reward could be closely linked to the views on management control by Robert Simons (1987).

According to Merchant and Van der Stede (2017) incentives and rewards are not exclusively positive. Rewards could also be negative and tied to falling short of reaching performance targets. While the implementation of concrete negative rewards such as punishment and receiving unimportant work-tasks was not recommended by principals, some employees could perceive not receiving rewards as punishment (Merchant & Van der Stede, 2017). By implementing pay-for-performance systems in the educational sector some teachers would not receive these bonuses and could perceive this as a punishment. This could have negative effects on motivation and eventually performance. Negative rewards could according to Merchant and Van der Stede (2017) lead to employee dissatisfaction and increase employee turnover. If Annual bonuses are implemented some teachers might view not receiving a bonuses as negative rewards or punishment. This might lead to demotivated teachers, and in worst case scenario, the resignation of valuable assets. This reasoning speaks against the implementation of *annual bonuses.*

7.1.5 Conclusion: Part I of the analysis

During our research we found that principals and teachers had both positive and negative thoughts on the current salary system. Positive aspects of the current system is that it incentivizes teachers to increasing their competence and staying in the profession. The system could also be characterized as predictable, stable and transparent, which is appreciated by risk averse teachers (Bowen et al., 2014). The negative aspect of the current system is that teacher salary is perceived as generally low, and the current lack of variable rewards based on teacher efforts.

Based on the remarks made by the respondents we sum up the section on teachers' attitude towards *annual bonuses* with the notion that teachers and principals are generally negative towards this system. Our analysis show that this negative attitude could be explained based on the current culture in the educational sector, where teachers are used to receiving equal treatment from management. This phenomenon can be explained through motivational theory by (Kaufmann & Kaufmann, 1998). We also analyse the dimensions of teacher performance to be too complex to be measured with validity and that evaluation procedures could be perceived to not contain procedural justice by teachers (Kuvaas & Birkeland, 2018). Based on these arguments, annual bonuses would not increase teacher performance.

Our analysis also show that group based rewards would be more beneficial to implement than bonuses based on individual performance. Allocating rewards based on team achievements could solve issues with separating teachers' efforts. However, the free-rider-effect could become a problem because some teachers contribute more to group achievements than others. The free-rider-effect would however not occur if bonuses were based on individual performance. This design would also tie rewards closely to performance, which could be considered to have high motivational effect (Pink, 2009). However, individual rewards could provoke competitive behaviour amongst teacher which could be destructive towards long term value creation in schools. Organization wide bonuses involves similar benefits as team bonuses, however in this system, bonuses would not be as closely linked to each teachers' contribution as with team bonuses or individual bonuses. Based on economic literature by Kandel and Lazear

(1992); Vyrastekova, Onderstal and Koning (2006) team-based rewards could work quite well in small teams and because of this we recommend implementing bonuses based on team efforts.

The teachers and principals were divided in their opinions on what factors and to which extent they motivate teachers'. Some of the factors mentioned was having a sustainable work environment which enables the teachers to do their job and working with competent people. As a general consensus, our findings show that extrinsic rewards could have a motivational effect, while intrinsic motivation was to a larger degree present amongst teachers. This is consistent with Kuvaas and Birkeland's findings (2018) on Norwegian teachers' motivation. Some teachers were of the opinion that bonuses could motivate them to exert additional efforts. However, we found that most teachers were intrinsically motivated. According to Jacobsen, Hvitved, and Andersen (2013) external interventions could crowd out intrinsic motivation if employees perceive these as controlling. According to our analysis bonuses could lead to demotivated teachers, which is likely to affect their performance negatively.

Most principals perceived other rewards than monetary to have a higher motivational effect. Some of the rewards the principals suggested was time, autonomy and a fruitful work environment. Some principals also seemed to be supportive of basing monetary rewards on projects with clear and unambiguous criteria for evaluation and project completion. Our analysis also shows that the implementation of *annual bonuses* could result in unintended effect on teacher performance, because the teachers who does not receive bonuses could perceive this as punishment, which would ultimately have a negative effect on performance.

7.2 Challenges and opportunities with performance pay in the educational sector

Management control systems should be implemented to ensure that the interests of the organization are preserved (Merchant & Van der Stedes, 2017). Anthonys (1695) further ads that management control systems should ensure that resources are effective and efficiently used. These resources, such as rewards and salary are categorized in the organizational structure category in Ax et al (2010) categorization of the different forms of management control and distributing these could cause various challenges and involve management control possibilities. In this second section of the analysis some of these challenges and the opportunities will be analysed and discussed, in the context of the Norwegian educational sector.

7.2.1 Challenges associated with pay-for-performance

When asked, the principals mentioned several challenges which could arise when implementing a performance-based pay scheme at their school.

Lack of measurement procedures

Evaluation procedures are categorized amongst the *organizational structure* control instruments, in Ax et al. (2010) categorization of control instruments. Most principals conducted an annual evaluation process where they observed and gave feedback to teachers. One principal (4) elaborated

"I conduct an evaluation process every half year where I elaborate my opinion on each teachers' performance and results. I often walk around in teachers' classrooms beforehand and observe their teaching and give them feedback, mostly positive"

Flamholtz (1983) states that controlling employees' is a necessity in every firm. The principles we talked to made clear that controlling was not always the focus of their management procedures, and that the evaluation process was one of the more formal aspects of their management control systems. While, most principals had the same approach to evaluations as the principal above, not all had similar procedures as principal (3) mentions:

"I do not conduct measurements on every teacher, I only take action by measuring and evaluating when I observe that a teacher is on the wrong track or I receive negative feedback from sources"

In Anthony and Youngs (2003) traditional management control process, the evaluations and measurement play a part in helping managers in decision making, as we see in Figure 2. From these findings it does not seem like the principals have similar views or guidelines on how to evaluate their teachers. As principal (3) implies, some principals do not conduct a formal evaluation process. According to Pink (2009) evaluations have to be conducted in order to give rewards based on measurement, which imposes a challenge in relation to annual bonuses, as there is a lack of annual evaluation procedures at some schools. These could however occur from time to time as the principal mentions, but then they would not be predictable and would therefore not hold procedural justice. According to Doran (1981) this could provoke other behavioural displacement issues. If management is to implement a bonus scheme the performance targets needs to be timely, in line with their evaluation process. This implies that goals should be timely according to the SMART principle. With sporadic measurements of teacher performance from time to time it could be considered difficult to make targets and their evaluations fit the criteria.

There is also a lack of fiscal measurements in the Norwegian educational sector, which is in line with theory by Merchant and Van der Stede (2017) where these measures can be limited or non-existent in non-profit organizations where employees focus on other types of value creation. In schools, employees focus on value creation in the form of enhancing student knowledge and contributing to their development. Profits and turnovers are not valued and teachers are not made accountable for these. They however have budgetary limitations they must take into account in decision making. However, this is not a valid aspect of teacher performance and teachers are not measured on their contribution the accomplishment of budgetary goals. Based on these arguments there is a lack of fiscal measurements in the Norwegian public educational sector, which is in line with the type of value creation these non-profit organizations perform.

Challenges with performance measurement

While the evaluation process was different at several of the schools, there were also other aspects of the measurement process which cause concern according to theory on performance measurement. One principal (1) had the following comments on challenges with implementing a measurement system for performance pay.

"(...) my assumption is that we define a good teacher performance at my school as different than schools in other districts, we also have different local objectives (...) we value creating a bond with students and helping them graduate from middle school. We also value teachers who motivate students to continue their education"

As this principle mentioned, the different school management teams have different opinions on what is considered to be important. The *knowledge promotion reform* which is explained in section 5.4 states the overall domestic focus points of teachers. The schools also have local objectives and focus points for their teachers' efforts as described in 5.3, which are based on the characteristics of the student body. Some schools focused on the integration of students, while others were more focused on digitalization. Because all of the schools had different strategic focus points it could be considered difficult to design and implement standard measurement systems for all schools, meaning that the systems design would have to be customized at every school. Difficulties with standardizing the measurement and reward systems across schools was also discovered in a study by Murnane and Cohen, 1986; Hatry, Greiner, and Ashford, 1994. At another school the principal (3) had other views on teacher performance and rewards.

"Rewarding teacher would have to be based on their additional efforts, which could be viewed as hours spent at the office. I do not control how many hours each teacher spends at work, but I feel I have a pretty good idea how teachers' compare on this measurement"

As this principal implies, some schools also value the amount of time teachers spend at work, which was argued to be an indirect indication of their additional effort. It could be considered to be likely that some teachers spend more time preparing for class, because of their lower ability to work efficiently. Rewarding the teachers who spends more time at school would therefore not be an optimal recommendation for schools with efficiency as a strategic objective (Otley, 1987). Our definitions of management control systems also state that control systems should assist with the allocation of resources making it more efficient. The teachers work methods could be ineffective or outdated, or their ability to work in teams could be lacking. Because of these arguments, time spent at work could be considered as a poor performance indicator to reward bonus based on. Another principal (2) had several similar views as principal (1):

"at our school we are less concerned with measurable data such as grades and years of experience, these are insufficient parameters of a larger picture that is teacher performance (...) at our school we are more concerned with the big picture"

As one can draw from the analysis above and from the arguments made in 7.1.2. of this report, identifying accurate measures for the comprehensive dimensions of teachers' performance could be considered to be the main challenge with implementing performance pay. Principals struggled with finding suitable performance indicators of teachers' performance because none carry the extensiveness of their work performance. This aligns with Merchant and Van der

Stede (2017) stating that typical challenges with measurement arise when formulating, designing and implementing indicators of performance.

These findings are also consistent with empirical evidence from Murnane and Cohens conclusions of the report "*A nation at Risk"* from 1983, where they argue that teachers' performance is difficult to monitor because the value of a teacher's service is not readily for measurement. Their performance could also be considered to be difficult to quantify and compare. However, this does not go for all performance indicators. Multiple principals agreed that grades are a quantifiable objective measure of teacher performance, however they were not eager to use this indicator extensively. Principal (4) elaborates:

"*During my annual evaluation of the teachers, we discuss student grades (...) I am careful not to criticize when the grades are low because there are many other factors affecting these grades than the teachers' performance (...) we often discuss why the teachers believe their student grades turned out the way they did"*

Empirical evidence by Goldhaber (2011) and Leigh (2012) implies that teachers are least found of being rewarded based on grades. This empirical evidence fits these remarks. As we can assess from these findings, student grades are considered as a mediocre indicator of teacher performance, because these could be affected by other factors of which teachers have little or no control. This fits theory on controllability described by Bhimani et al. (2008), Merchant and Otley (2006) and Merchant and Van der Stede (2017), arguing that employees should not be held accountable for what they cannot control. This argument is based on the importance of a correlation between performance and goal reaching, which is described by Gabrielsen (2007). Researchers have found that teachers have high influence on student results (Kane, Rockoff, and Staiger, 2004; Boyd, Grossman, Lankford, and Loeb, 2006). However, there are multiple variables that influence student results which the teachers have little control over; e.g. class size (Glass et al., 1982; Mosteller, 1995) and school size (Haller, 1993). Based on the findings, empirical research and relevant theory, grades and test scores could be considered as a problematic performance indicator to base bonuses on. Another principal (1) had similar, but different beliefs:

"Grades are a poor indicator when looked at for one single year, they however have a higher informational value when compared with class grades over several years (…) we use input and output grades as a teacher performance indicator at our school"

The *input-output* comment was made on the basis of what the teachers contributes with during the students' education. At some schools the performance could be considered sublime if the grades are 3,2 and at another school the grades could be considered to be subpar if the grades are 4,6. This can be explained as follows. If the *input* is high, students could achieve a grade of 4,4 when they begin their education. When they achieve a grade of 4,6 in their final year, a teacher would only have contributed to raising the grades with 0,2. However, when the *input* is low, and a teacher is able to raise a grade from 1,6 to 3,2 this could be considered to be a huge achievement. Because of this illustration, whether or not the *output* is considered to be high, will to a large extent be dependent on *input.* By using input and output grades, some of the disadvantages of using single grades could be avoided, and by basing grade targets on local objectives based on the characteristics of the student body, one could align these targets with strategic goals (Simons,1987). According to Lazear (2000) because of the absence of externalities or information problems, payment for output always trumps payment for input in terms of raising overall productivity.

Because of the importance of the former knowledge the students possess when enrolling in school, or *student input* as principal (1) describes this factor, the average principal was more concerned with their local standard, and not *benchmarking* grades with the domestic average grade. They were more concerned with *benchmarking* toward compatible schools with the same *student input*. According to economic theory by Wallander (1992) employee performance should be benchmarked against their closet peers. Comparing teacher performance with their closest peers could mean both internal colleagues, and teachers at other schools with the same student *input* and similar characteristics. According to Wallander (1992) this could create a continuous strive for improvement.

However, the strong but uncertain link between performance and grades could potentially demotivate teachers if they are measured and rewarded extensively based on these results. Teachers are often risk averse (Bowen et al., 2014) and risk averse employees does not feel comfortable with carrying the risk of uncontrolled factors (Merchant & Van der Stede, 2017). Merchant and Van der Stede (2017) recommends measuring employees on performance indicators they can control with their efforts. They also advise against using measures with *interdependence*. These are measures who are heavily dependent on other people in the organization. Grades fits these characteristics because other teachers in the organization could have an effect on these student achievements.

Another issue concerning grades and other indicators the principals and teachers mentioned were setting specific goals, which according to Locke and Latham (1990) is an important aspects of goal setting. Because of the many uncertainties with student grades, setting specific goals or targets for these could be difficult. While most schools did not define specific grade targets for the teachers, one principal (2) mentioned:

"(...) at the beginning of each semester, the teachers will in collaboration with us in the administration, collectively set goals for the coming year (...) last year the goals were to increase the average grade within certain student groups"

A key aspect of goal-setting and achieving procedural justice, is to communicate what is expected from employees. Currently there seems to be a lack of communicated expectations amongst the teachers at some of the schools we interviewed. This characteristic of the Norwegian educational sector could be associated with the first cause for management control problem, identified by Merchant and Van der Stede (2017), and presented in Table 3.

Goals should also be *timely* according to Shields (2007), meaning they should have a predefined time frame, and a sufficient time to be reached. In our interviews we found that most principals had the same time frames on their evaluations, consisting of evaluation every semester. One for the semester in spring and one in the semester in autumn, which could be considered predefined and timely. However, the performance goals need to have a sufficient time span in order for teachers to reach them (Doran, 1981). The timey nature of the current evaluation procedures fits the short-term nature of *annual bonuses*.

From the interviews we found that The Union of Education sometimes have a different perspective than some principals (2) on what is considered to be important.

“The Union of Education often value teachers who elevate their formal competence by taking courses and higher education (...) At my school this is important, but we value other factors more”

In the Norwegian educational sector, The Union of Education have a large influence on what local schools should focus on. These opinions on what is considered to be important to reward was sometimes different between the directorate and the principals. The union of education were often mentioned to be influenced by the local government and what political party is governing. These parties will ultimately have an influence on how teachers are measured and school objectives. One principal (1) had a suggestion

“The systems should be more technocratically designed, and not based on politics and other parties with little experience in the teaching profession. The schools should decide what they want to reward teacher based on and not local governments or governing associations”

This suggestion would give the schools more power and potentially get rid of the problem with central governing forces to interfere with the completion of local objectives in relation to Robert Simons (1987) views on what is considered to be the most important objective of management control systems. By letting local principals choose the performance indicators they believed capture the local objectives determined at each school, this could help accomplish each schools’ objectives, based on the characteristics of the student body with a balance between short- and long-term objectives (Kaplan & Norton, 1992).

Principal (1) elaborated another suggestion further on in the interview:

If I were forced to reward my teaching staff based on their performance I would reward them based on a 10-factor model with different indicators such as: a teacher's results on the staff feedback surveys, student surveys, grades progress from year to year, grades compared domestically, supplementary education and competence increase, team working abilities and ability to change etc.

This finding fits Kaplan and Norton’s (1992) theory on the implementation of a balanced scorecard, where a teacher’s annual performance score would consist of a summarized result on different measurement indicators. These indicators would have to be persistent, transparent and understandable to be optimally implemented (Bogsnes, 2009).

Being evaluated on many performance indicators could however overwhelm the teaching staff and confuse them when choosing what to focus on (Parmenter, 2015). Thus, implementing a simple and cognitive measurement system is recommended by Malina and Selto (2001). However, as mentioned above, this is perhaps not possible because of the many and comprehensive dimensions of teacher performance. According to economic theory, empirical evidence and our findings, measuring teacher performance could be characterized as the paramount challenge with implementing annual bonuses in the Norwegian public educational sector.

Challenges with behavioural displacement

When implementing performance measurement there is a risk that behavioural displacement could become a challenge for management. These can be viewed as indirect costs of implementing control systems, because of the harmful economic side-effects. Such challenges could be *gamesmanship* or *short sightedness (myopia)* as described by Merchant and Van der Stede (2017). Other example is issues concerning *multi-tasking* as described by Gabrielsen et al (2007). Challenges could also occur when implementing too few or too many indicators as described by Parmenter (2015).

When asked how the teachers would react to the implementation of performance pay one principal (3) answered:

"*If I told the teaching staff that they would be rewarded for learning how to walk on their hands, they would make a considerable effort to achieve this"*

The statement indicates that bonuses could direct employee efforts and have *informational benefits* according to theory by Bragelien (2011). As theory on behavioural displacement states, the directional benefits of control systems could lead to unintended efforts by employees. One principal elaborates:

"If i were to reward teachers for cooperation, and measuring this by their score on the co-worker survey, i believe some teachers would plan to evaluate each other's results to get the reward, or for the entire school to get a better result"

This is a scenario described as *gamesmanship* by Merchant and Van der Stede (2017), which could be related to empirical research conducted by Goodnough, 1999; Koretz et al, 1999; Jacob and Levitt, 2005 where employees were investigated for altering students test scores. When implementing pay-for-performance one has to be careful not to set too high performance targets which could tempt teacher to tamper with their test results. By setting ambitious but achievable performance targets, *gamesmanship* is less likely to occur (Locke and Latham, 2002). In a study conducted by Glewwe, Illias and Kremer (2003) at a school in Kenya they found evidence of gaming with student results when teachers were substantially rewarded (40% of salary). Based on empirical evidence from the educational sector and economic literature, one must be careful not to set too low or too high performance targets and tie the right amount of rewards to these.

Myopic behaviour or *short-sightedness* which is described by Merchant and Van der Stede (2017), could also be considered to be a potential challenge with implementing *annual bonuses* in the Norwegian educational sector as one principal (5) indicates:

"At our school we are heavily concerned with long-term value creation, which means facilitating student academic prosperity throughout their time at our school. I don't know if bonuses could have a negative effect on this aspect of teacher focus".

Empirical evidence from a study conducted by Eberts, Hollenbeck and Stone (2002) at a high school in Michigan shows that such *myopic* behaviour. The study shows that short-sightedness could occur if teachers receive rewards based on short-term performance. Short-sightedness could typical prevent the completion of long terms objectives and cause employees to overlook activities of long-term value. Typical *myopic* behaviour originates from too high rewards, which was the case in the Michigan study, were bonuses were of substantial value (20% of pay). Takeaways from this study and the statement above, is to be aware of the potential drawbacks when designing bonuses in the Norwegian educational sector. According to Flamholtz (1983) management control systems are well functioning when they encourage employees to pursue company goals instead of their own interests.

Another potential challenge when implementing pay-for-performance in the educational sector is to avoid issues of *multi-tasking*. This could have an impact on teacher performance if bonuses were implemented on only some their efforts. Principal (3) elaborates:

"I am worried that rewarding my teachers based on e.g. grades, they would focus too much on these instead of other important aspects of teaching (...)

When employees are made accountable for many different tasks, they might be confused with what is regarded as the most important. Measuring employee performance based on only some of these tasks could therefore lead to *multi-tasking,* and too many indicators may confuse employees by overwhelming them with information on where to direct their efforts (Parmenter, 2015).

In studies conducted by Holmstrom and Milgrom (1991), and Hannaway (1992) issues with *multi-tasking* was observed in the educational sector. Based on their studies they argue that teachers tend to shift their focus to the metered and incentivized activity, and away from other important teaching related aspects. Because Norwegian teachers' have many different objectives as *the knowledge promotion reform* indicates, and other aspects of their jobs which could be considered important, one must be careful not to implement a bonus system which would render the teachers to have a too narrow perspective on the overall objectives of the organization. By using the incentive system dimension of the management control to align rewards with the organizations' real aims and the business strategy, this could help employees make informed decisions on what to focus on (Simons, 1987). This could prove to be difficult in the Norwegian educational sector because of the various focus points of the teachers, which makes the potential for negative effects mentioned in this section likely to occur.

In relation to behavioural displacement Beer and Cannon (2004) present multiple characteristics of the public-school sector which could help increase the likelihood of a successful implementation of performance pay. They argue that school culture often discourages opportunism, which could help with potential issues of gamesmanship and myopic behaviour amongst teachers. They also argue that teachers' generally have a long-term perspective with their career, thus being more concerned with keeping a good reputation. This argument could potentially be transferable to the Norwegian education sector, more scientific research would however have to be conducted to establish this.

7.2.2 Possibilities associated with pay-for-performance

During our interviews we uncovered negative attitudes towards the implementation of *annual bonuses*. We also uncovered positive nations and opinions on how this system could benefit the educational sector. In this section we will analyse the possibilities when designing and implementing bonus systems and discuss how bonuses systems could benefit the Norwegian educational sector.

Effort directing possibilities

When asked to imagine some positive aspects of having bonuses to reward the teachers with, principal (2) elaborated:

"*I wish we had more rewards to give to teachers' who are more eager to digitize their teaching method. Most teachers prefer to use the same method which they have always used"*

According to Vroom's (1964) expectancy theory, employees tends to do what is rewarded, which could be viewed as a possible solution for principal (2). By rewarding wanted behaviour Lazear & Gibbs (2009) argues that when designed and implemented correctly, incentive system could have effort directing benefits, and show employees what is desired by management. If principals could reward teachers based on the efforts they valued, in relation to their local objectives, this could benefit the archival of these. The statement above shows a demand for additional rewards, and by rewarding annual bonuses, more of the tasks that teachers are not as eager to take on could become more desirable; modernising their teaching methods and using more effective technological equipment when teaching. By utilizing the benefits of management control systems, schools who revolve their local objectives around digitalization could incentivise this activity, and thereby help carrying out these objectives (Otley, 1987). Another principal (2) had an interesting argument.

"Paradoxically, I have to reward the most professional and well performing teachers at my school with the most difficult and demanding classes, because of these teachers' abilities to handle this segment of our students. Unfortunately, I have no additional monetary rewards for these, even though they have to work more"

This statement could be viewed as an indicator of a potential *ratcheting effect.* This effect describes a situation where teachers could feel punished for reaching goals and exerting excellent performances, which often ultimately results in demotivated employees (Merchant & Van der Stede, 2017). By implementing a bonus system rewarding teachers based on how demanding the students of a class is, this principal could prevent teaches to become demotivated. However, number of "demanding" students could be characterized as a fairly subjective measurement, as the evaluation of whether or not a student body is demanding or not would be biased (Baker et al., 1993). Subjective measures however help correct flaws in measurement and management could evaluate in collaboration with teachers. Optimal performance measurement combines both objective and subjective weights (Baker et al., 1993. Teacher (2) had a similar view as principal (2), which could help with the demand for objective measures.

"When we receive classes containing student with special needs, we are not given any additional salary, even though these student demand extra hours of work. If I have to attend four meetings with our student psychologist and the needing student, and my colleague have zero such meetings, we will receive the same pay"

These findings illustrate a potential need for additional rewards based on the characteristics of the student body, which could be considered as an objective measurement for principals to base reward on. Number of meetings with the *student psychologist* is a quantifiable indicator to base rewards on, and a suitable indicator of more time-consuming students. As the principal mentioned above, the teachers who perform well are often the teachers who will receive the most demanding classes. Thus, rewards based on the number of demanding students could be considered as a reward based on efforts, and performance.

Attraction and retention possibilities

One principle (1) had the following to say when asked how to describe the most optimal way to distribute bonuses:

"The vocal point of our evaluation would be which teacher we were the most dependant on retaining in order for our organization to remain stable and development oriented (…) which teacher will have the most impact on the student body if we lose, and who is the hardest to replace"

As this interviewee elaborates, retention and recruitment possibilities studied by Lazear (2000) are also present in the Norwegian educational sector. These possibilities can be directly connected to using management control systems to allocate resources efficiently in order to accomplish the organization's objectives (Nyland and Østgren 2008). Attaining their most valuable assets could be considered as paramount for a school in order to reach their long-term objectives. According to this principal (1) the most valuable assets are:

"The teachers who are able to build trust amongst students and build valuable relations. The teachers who takes extra time and does this, in addition to being cooperative in teams"

Attaining these assets will help this organization more long-term than rewarding a teacher who have performed sufficiently to receive a yearly bonus, with less ability to build relations and cooperate. Rewarding to retain assets could however have negative effects on some of the teachers according to Merchant and Van der Stede (2017) theory on efforts leading to rewards. When teachers perform sublime or sufficiently on parameters who are linked to receiving a bonus, and the bonus is instead distributed based on which assets the school is most dependant on attaining, the link between efforts and rewards becomes weak and well performing teachers could become demotivated (Pink, 2009)

Schools are heavily dependent on budgets and when the budgetary bonus pools have to be distributed based on attaining experienced human capital, the more inexperienced younger teachers will seldom receive bonuses based on e.g. grades or taking higher education. In one scenario the valuable asset could have mediocre performance on these parameters and still receive bonuses because of their important connection with a set of difficult students. A potential solution to solving this challenge is to design the bonus system with a more fluid bonus system pool, and benchmarking assets to find who are the most valuable and have the highest performance (Wallander, 1999). This approach would make school management able to reward both teachers if this is necessary or crucial for the organization. This would also help schools attract younger prospects, by being able to reward superb performance from newly hired teachers and attain seasoned teachers with advanced relation building skills.

7.2.3 Conclusion: Part II of the analysis

In the second part of the analysis we have found evidence that there are both challenges and possibilities associated with implementing performance related pay in the form bonuses, in the Norwegian educational sector.

Shortcomings in measurement procedures could impose challenges when implementing a bonus system. Teachers needs to be evaluated in order to be rewarded for their efforts, and because the current system lack consistency and transparency, changes need to be done in order to achieve procedural justice. Because the dimensions of teachers' performance are various and complex, teacher performance is difficult to measure. Many of the dimensions such as willingness to change and ability to cooperate are also difficult to quantify, and could therefore be considered as difficult to compare, and eventually reward. Because separating each teacher's contribution to one students' achievements, this could impose challenges when distributing bonuses amongst team members.

When control systems are wrongfully implemented and designed, this could result in unintended outcomes. Because of the many challenges related to measuring and rewarding teachers, the likelihood of some of these occurring could according to our analysis be high. Some of these unintended effects are behavioural displacement issues such as *gamesmanship, myopic behaviour* or *multitasking issues.* However, because of the extensive research conducted on management control systems, many of these challenges could be prevented by acknowledging the literature by e.g. Beer and Cannon (2004) arguing that the culture of schools discourages opportunism and to focus on short term gain which could hurt a promising career.

The possibilities associated with bonuses we found in our analysis were in relation to effort conducting and directing efforts. Bonuses could motivate employees to exert higher performance or effort, and by basing the performance targets on long term school objectives these could direct teachers' efforts towards what is important to different schools. We also found that bonuses could have recruitment and retention benefits. By giving principals the ability, as well opportunity to making their most valuable assets to stay as well as attracting talented employees.

Before implementing a management control system, the challenges must be weighed against the possibilities, and the likelihood of each of these consequences happening must be compared.

8.0 Conclusion and suggestions to further research

In this section we will present the highlights from our research on the topic of performance pay in the public educational sector in Norway, and our suggestions to further research on the topic. The aim of our thesis is to answer the following research question:

"Could a performance-based pay scheme in the form of bonuses help to increase teacher performance level? What are the main challenges and possibilities when designing and implementing a performance-based pay scheme in the Norwegian public educational sector?"

Our research question is divided in two parts. The first section aims to identify whether the implementation of performance pay in the form of a bonus system could increase teacher performance, while the second aims to identify the main possibilities and challenges with implementing this type of pay-scheme for teachers. We chose this research subject based on our personal interests, and because there seems to be a lack of research done on bonuses in the Norwegian educational. Furthermore, teacher salary is a heavily debated topic in Norwegian media and politics. There also seems to be a lack of former research done on this subject. In our thesis we define teacher performance as in what degree teachers are able to (1) accomplish the objectives of *the knowledge promotion reform*, (2) accomplish local objects determined by school management and (3) typical characteristics of the teaching profession, divided in their ability to interact with students with colleagues.

During the process of writing this thesis we have learnt a great deal about the characteristics of the Norwegian educational sector, and how performance-based pay could be difficult to mobilize as a reliable part of management control systems. We have learned that teachers are generally satisfied with the current pay scheme and that they are mainly intrinsically motivated. We have also learned that the teaching profession is difficult to measure, which makes bonuses difficult to implement. The principals' perspective was also interesting to get to know, as they elaborated that the culture is not suitable for the implementation of bonuses, and that they would not mind having additional rewards they could offer to the valuable assets they needed attract or retain. The purpose of our research is to provide insights in the Norwegian educational sector, and how the implementation of bonuses could be challenging, while also give management control benefits. The conclusion of the research question will be twofold in line with our analysis, where the first part will be analysed next.

8.1 Could a performance-based pay scheme help to increase teacher performance?

The current teacher salary system in the Norwegian public educational incentivizes teachers to participate in formal competence increases and for their seniority. The teachers were satisfied with the current system, and our analysis show that this could be because the system is stable, predictable and transparent which will influence employee motivation positively (Gabrielsen et al,. 2007). If one were to implement annual bonuses in the compensation system, we believe it would be beneficial to keep the stable, predictable and transparent salary increases, even though our findings show that the reasons for salary increases are easily forgotten by teachers, and that research by Kuvaas and Birkland (2018) suggests that these have limited motivational effect. We believe it would be beneficial to keep the salary increases because these will to some degree ensure growth in human capital and that human capital stays in the educational sector, which is important in modern organizations (Langelands, 1999). By adding *annual bonuses* based on performance these could fill the expressed demand for additional rewards which was mentioned by some teachers. However, because many of the teachers were satisfied with the current system, additional rewards could become excessive. Based on this, further compensating well performing teachers could be considered as an inefficient use of resources, which is not in line with the Anthony (1965) views on effective use of management control. Teachers however argued that additional salary could have recruitment and retention benefits which has been proven in empirical research by (Podgursky & Springer, 2006).

When asked about their thoughts on implementing bonuses I the Norwegian educational sector, the teachers and principals were overall negative, which is in line with conventional wisdom (Podgursky & Springer, 2006). The principals argued that because the teachers are used to equal treatment, *annual bonuses* would not fit the current sectorial culture. Because of this there would have to occur a cultural change in order for the system to effectively increase performance. Organizational culture is characterized as an informal control instrument by Ax et al. (2010), which could direct employee focus towards the organizational objectives if implemented correctly. Based on our analysis, performance pay is unlikely to increase teacher performance because teachers could become more concerned with comparing their treatment and rewards than their performance (Kaufmann & Kaufmann, 1998).

The principals and teachers argued that teacher performance is not quantifiable and measurable. They further argued that this could cause the measurements of performance to be unfair. According to Kuvaas and Birkeland (2018) Norwegian teachers are generally concerned with the procedural justice of rewards and evaluations, which our interview objects implied as well. Their concerns with procedural justice could influence teachers' performance negatively as pay-for-performance systems must be transparent and just for the system to carry its intended effects. Our analysis show that the measurement system is unlikely to carry procedural justice, based on the definition by Kuuvas and Dysvik (2008).

Most performance measures of teacher performance could be considered to be subjective measures except for grades, who could be considered to be the simplest and most objective measure of teacher quality. This measure is also the measure that teachers would least like to be measured on (Leigh, 2012). Proper subjective measures are argued by Merchant and Van der Stede to have undeniable advantages because, because one can correct for flaws in results measurement. Based on this reasoning annual bonuses could be implemented based on subjective performance measures. This could however have negative motivational effects because teachers have little faith in that principals could measure their performance and evaluate criteria with *procedural justice.*

While teachers and principals had little faith in that the system would result in the intended effects, empirical evidence suggests that teacher attitude towards this type of remuneration system could be altered when teachers gains experience with it (Podgursky & Springer, 2006). Witham finds that teacher attitude could be altered in a positive way, which shows the potential for Norwegian teachers to become more positive towards the system when exposed to it. This could indicate that development in teacher performance could be negative in the short-term, and positive in the long-term as teachers gains experience with the system. Based on further conclusion to our research question this is considered to be unlikely.

Our interview objects argued that bonuses would be difficult to distribute based on individual efforts, which is similar to findings by Podgursky and Springer (2006). The reason for this is that each teachers' contribution to student knowledge is difficult to measure and separate. Based on the analysis of our findings we find group-based bonuses to be the most likely bonus structure to increase teacher performance. Individual bonuses could be harmful to the *collegiate ethos* described by Adnett (2002), because these could provoke competitive behaviour amongst teachers. This could be considered as negative for teacher performance because schools are heavily dependent on teacher cooperation. Our analysis shows that by rewarding based on group efforts, *the free rider effect* could become an issue. However economic literature by Kandel and Lazear (1992); Vyrastekova, Onderstal and Koning (2006) suggests that group incentive systems could work in small teams, which could be considered to be a reality for teacher in the Norwegian educational sector, where teachers often work in teams consisting of 2-4 teaches.

When analysing incentive systems, it is paramount to discover how subjects of rewards are motivated because this will have an effect to how they will respond to different rewards.
We found teachers' to mostly by intrinsically motivated, and that salary is not the aspect of their work which determines the direction, intensity and duration of effort (Pinder, 1998). They were more motivated by self-actualization (Maslow, 1943), interacting with others (McClelland, 1978), watching their students prosper and leadership (Herzberg, 1997). Some teachers mentioned that monetary compensation could have an effect on their motivation, while most said that salaries was not a factor which influenced their efforts. If external interventions are perceived to be controlling, they are expected to crowd out intrinsic motivation. Our analysis find that this could become reality in the educational sector (Jacobsen, Hvitved, & Andersen, 2013). This could eventually decrease their internal motivation which would likely have a negative effect on teacher performance.

When asked about other rewards which could motivate teachers to enhance their performance, teachers' and principals' mentioned praise and acknowledgement, time off, autonomy and a sustainable work environment to be influential non-monetary rewards (Merchant & Van der Stede, 2017). Based on economic theory, these could be considered to be less costly than monetary bonuses and have similar motivational effects. We found that in the Norwegian educational sector, some of these could have a higher motivational effect than annual bonuses. One principal mentioned projects as a reward, where teachers would receive a one-time salary payment for participating in a project. This reward would involve an alignment between the object of the project, and the organizational objectives. Based on our analysis it is more likely that bonuses would work if the rewards were other non-tangible rewards than monetary bonuses, e.g. time off or facilitation of work tasks.

Based on the analysis we have come to the conclusion that annual bonuses as defined in Figure 3 is unlikely to increase teachers' performance. An incentive system which is more likely to increase teacher performance is group-based incentives system where principals determines the criteria for receiving the bonuses. According to Kuuvas and Birkland (2017) this system would have to include objective measures which offer procedural justice. Bonuses could consist of other rewards than monetary, in the form of e.g. time of or facilitating work tasks. A monetary reward which could work is project salary from a project subject determined from local school objectives, where the criteria for participation would have to be based on the accomplishments of local targets. The teachers would have to perceive the system as procedurally just to the extent this is possible in the Norwegian educational sector. This system could help with attraction and retention of valuable assets as mentioned by some principals. This is in line with economic theory suggesting that resources should be used both to ensure the prosperity of the organization which could mean retain valuable assets, and to achieve the organization's strategic objectives (Simons, 1987).

8.2 What are the main challenges and opportunities with implementing bonuses?

The analysis in this study shows that there are multiple challenges and possible benefits with implementing bonuses system in the Norwegian educational sector. These should be considered by management at schools before mobilizing this type of incentive scheme.

There would have to be changes in how principals and school management monitor and evaluate their teaching staff if annual bonuses were to be implemented. Currently there are formal evaluation procedures at most schools but not all. According to Pink (2009) performance needs to be measured and evaluated in order to be rewarded. This challenge is not considered as a major challenge, since most measurement procedures need to be altered in order for a bonus system to work. However, there are considerably less evaluations and measurement in the educational sector than many other sectors which could be explained as a consequence of the main challenge we found through our analysis. In schools there are also a lack of financial measures because employees focus on other types of value creation than financial. This limits the scope of the objective measures for management.

During our analysis we found that it could be considered difficult to standardize measurement and reward systems for teacher performance, which was also discovered in a study by Murnane and Cohen (1986). We found this to be a result of the local objectives at schools, which differs from school to school based on the characteristics of the student body.

Identifying accurate measures capturing all dimensions of teacher performance could be considered to be the main challenge with implementing annual bonuses. This is in line with theory on employee measurement described by Merchant and Van der Stede (2017) where challenges with measurement arise when formulating, designing and implementing indicators of performance. Empirical evidence show that teacher performance is not readily for measurement (Murnane & Cohen, 1986). The full picture of teacher performance; the completion of objectives in the knowledge promotion reform, the completion of local objectives and possessing the necessary teaching characteristics could be considered as difficult to capture with standard measures. One objective measure of teacher performance could be grades. This is however the measure that teachers are the least found of being evaluated based on (Leigh, 2012). Other subjective measures of teacher performance could be employee surveys, student surveys and how management observes teachers to score on willingness to change, cooperating abilities, adaptability and class leadership. However, these does not capture all performance dimensions.

Because teachers' efforts are difficult to separate, many of the indicators of teacher performance are interdependent which could be considered as unbeneficial to implement rewards based on (Merchant & Van der Stede, 2017). This argument finds its basis in the controllability principle, arguing that employees should not be held accountable for what they cannot control (Bhimani et al., 2008, Merchant & Van der Stede, 2017). Research have found that teachers have high influence on students' results (Kane, Rockoff, & Staiger, 2004; Boyd, Grossman, Lankford, & Loeb, 2006). Our analysis find that these student achievements are a result of collective efforts from multiple teachers. Thus, annual bonuses based on team performance could be considered as the most suitable because they make performance measures more controllable. Input vs. output grades could be a potential objective performance measurement, where performance is benchmarked towards compatible peers and rewarded thereafter (Wallander, 1992). It could however be considered difficult to set specific goals for these, according to the SMART principle by Doran (1981). We also find it problematic to set potential performance targets of teacher performance timely as a school year consist of two terms. This fits the short-term nature of annual bonuses; however, teacher performance could take a longer period of time to affect the relevant measures.

Our analysis shows that some behavioural displacement issues are likely to occur when implementing bonuses in the Norwegian educational sector. Avoiding these could be viewed as a challenge, in relation to the second part of our problem statement. Based on our findings, relevant economic theory and empirical research we found that *gamesmanship, short sightedness* and issues with *multi-tasking* are types of behavioural displacement which could occur as a consequence of implementing annual bonuses. Gamesmanship and short sightedness could be avoided by restricting the amount of the bonuses. The behavioural displacement which could be considered as the most difficult to avoid is *multi-tasking* issues. This is directly influenced by the measurability issue, because the performance involves many and complex dimensions, and rewarding only some of these could render the teacher to have a too narrow perspective on the overall objectives of the organization. Because multi-tasking issues have been discovered in multiple empirical studies on schools, we consider this to be likely to occur (Holmstrom and Milgrom, 1991; Hannaway, 1992 & Dixit, 2002). Empirical research by Beer and Cannon (2004) does however suggest that the characteristics of the public-school sector which could help discourage opportunism. We do not believe that these discouragements would prevent all the above behavioural displacements.

While there are considerable challenges associated with implementing pay-for-performance in the Norwegian educational sector, there are also possibilities. When designed and implemented correctly, incentive systems could have effort directing benefits (Merchant & Van der Stede, 2017). By making principles able to reward teachers based on the efforts they valued, in relation to their local organizational objectives, this could benefit the archival of these, which is in line with the views of Robert Simons (1987). By utilizing the directional benefits of the control system, schools who evolve their strategy around e.g. digitalization could incentivise this activity, and thereby help carrying out these objectives (Otley, 1987). Having the opportunity to distribute bonuses, principals could avoid the *ratcheting effect* described by Merchant and Van der Stede (2017), where teachers have to take on a difficult class because they perform well.

As our interviewees elaborated, retention and recruitment possibilities studied by Lazear (2000) are also present in the Norwegian educational sector. These possibilities can be directly connected to using management control systems to allocate resources efficiently in order to accomplish the organization's objectives (Nyland and Østgren 2008). Attaining their most valuable assets could be considered as paramount for a school in order to reach their long-term objectives. The result of our analysis shows that teachers' turnover is a problem in Norwegian schools. Based on our findings, theory by Merchant and Van der Stedes (2017) and empirical evidence, we consider the possibility of retaining and recruiting teachers to be the main benefit with implementing a performance-based bonus system. These possibilities could become a reality, however the prerequisite for this is that the system is implemented correctly, which could be considered to be difficult based on the many challenges associated with implementing they system, which according to our analysis is more likely to occur.

In Anthony and Young's theory (2003) the management control processes is divided in four, where two of the control processes are measurement and evaluation. My mobilizing these control processes to a larger degree we believe that school management could be more informed in decision making and knowing how value is created by teachers'. Based on our analysis we do not believe bonuses would increase teacher performance according to our definition of this complex and multifarious term. We also believe that the challenges would outweigh the possible benefits associated with this type of pay, based on the destructive nature of the challenges we discovered. If bonuses were to be implemented in the Norwegian educational sector with a slight possibility of increasing teacher performance, this would have to be a technocratically based system, where local management is in charge of evaluations and evaluation criteria. We also believe that the system would have to be designed as a "grand bargain" where teachers are offered the option of choosing a new contract that provides higher risk and higher expected return, while also being free to stay on their existing contracts if they wish to do so. Such an approach could encourage more talented people to enter the teaching profession. We however believe that most teachers would avoid this option.

If bonuses were to be implemented, we also recommend that these should be small, and added to the current salary system. This would involve keeping aspects of the fixed salary system with predictable and negotiable salary increases, while also adding a variable aspect. This could perhaps make up for some of the negative remarks mentioned in the analysis in regard to the current system, and help school management in dealing with an ever-changing business environment with increased competition for human capital and gambling politicians.

8.3 Suggestions for further research

Several interesting topics for further research surfaced in the making of this paper, and some of them stand out as prominent for other research projects. As the aim of our research is to enlighten the reader on how such a system could affect teachers' behaviour and the possible challenges and possibilities, it does not involve the elaboration on the specific characteristics of how such a system could be developed, which we believe would be an interesting study. Future research needs to further examine the logical model of pay-for-performance programs and test alternative incentive models which is also found by Podgursky and Springer (2016). Furthermore, there are two interesting research propositions which we recommend being investigated further.

During our interviews we uncovered that there were differences in the attitude of teachers and principals towards bonus systems, which could be hypothesized to be demographically determined. The teachers in Oslo were more positive towards the system, compared to teachers in Kristiansand. By investigating this, one could discover which domestic regions in Norway where bonuses would be more likely to succeed and find whether or not it is more likely to occur positive effects in some regions of the country than others.

During our study of empirical research, a topic we found had been investigated in multiple countries is whether or not teachers change their attitude towards performance pay when they gain experience with this type of pay. In order to research this, one would have to observe teachers who have the opportunity to earn bonus. Because this is not the case at most of the schools in Norway, this study could be considered difficult to conduct. It would however have a significant scientific value because most principals and teachers we talked to had to imagine how they would react to bonuses. The research would hold higher scientific value if one could observe whether the performance was increased as a result of the bonus system. This research tilts towards the more quantitative, where performance would have to be recorded before and after the implementation, and other variables which could affect teacher's performance would have to be investigated. One could conduct supplementary qualitative research to find reliable answers to the observed possibilities and challenges. This study would have to be more specific with rigorous, independent observations, on a system which is currently non-existing in the Norwegian public educational sector, based on our findings

Reference list

Aaberge, A. H (17. February 2016) *Cash is king, eller? Lønn etter prestasjon - er det slik vi får bedre lærere?* Retrieved from URL (03 February 2019): http://kulturutvalget.no/2016/02/cash-is-king-eller-prestasjonslonn-motivasjon-og-laerere/

Adams, J. S. (1963). *Towards an understanding of Inequity.* Journal of Abnormal and Social Psychology, Vol. 67, s. 422 – 436

Adnett, N. & P. Davies (2002). *Competition between or within schools? Re-assessing school choice.* Journal of Education Economics, Vol. 13, Published online: 05. October 2010.

Adnett, N. (2003). *"Reforming Teachers' Pay: Incentive payments, collegiate ethos and UK policy"*. Cambridge Journal of Economics, 27(1), 145–157.

Anthony, R. (original author) & D. W. Young (second author in 2003). *Management control in Nonprofit Organizations*. 1770 Massachusetts Avenue, Suite 323, Cambridge, Massachusetts 02140: The Crimson Press, a division of The Crimson Group, Inc.

Anthony R, N. (1965) *Planning and Control System:a Framework for Analysis* (Boston, MA: Graduate School of Business Administration, Harvard University, 1965).

Askheim, O. Gaute. A. & Grennes, T. (2008) *Kvalitative metoder for markedsføring og organisasjonsfag*. Universitetsforlaget.

Ax, C., Johansson, C. & Kullvén, H. (2010). *The new Financial Management*. Liber Ekonomi, Malmö

Baker, G., Gibbons, R., Murphy, J. Kevin. (1993). *Subjective Performance Measures In Optimal Incentive Contracts.* NBER Working Paper No. 4480. DOI: 10.3386/w4480

Ballou, D., Sanders, W., & Wright, P. (2004). *Controlling for student background in value-added assessment of teachers*. Journal of Educational and Behavioral Statistics, 29(1), 37–66.

Ballou, D. and M. J. Podgursky (October 1993). *Teachers' Attitudes toward Merit Pay: Examining Conventional Wisdom.* Sage Publications, Inc, Vol. 47, No. 1, pp. 50-61.

Batson, C. D. (1987). *Prosocial motivation: Is it ever truly altruistic?*. Retrieved from: L. Berkowitz (Ed.). *Advances in experimental social psychology,* Vol. 20, pp. 65-122. San Diego, CA, US: Academic Press

Beer, M. & Cannon, M.D. (2004). *Promise and peril in implementing pay-for-performance*. Human Resource Management, 43(1), 3-48.

Bhimani, A; Horngren, C.T; Datar, S.M; Foster, G. (2008). *Management and Cost Accounting*, 4th ed. Harlow: Prentice Hall

Bogsnes, B. (2009). *Implementing Beyond Budgeting: Unlocking the Performance Potential*. Hoboken, NJ: Wiley

Bowen, D. H., Buck, S., Deck, C., Mills, J. N., & Shuls, J. V. (2014). *Risky business: An analysis of teacher risk preferences*. Education Economics, 23 (4), 470-480.

Boyd, D., Grossman, P., Lankford, H., Loeb, S. (2006). *How changes in entry requirements alter the teacher workforce and affect student achievement*. Education Finance and Policy, 1(2), 176-216.

Chester I. Barnard (1938) *The Functions of the Executive*, 30th anniversary ed. Cambridge, Mass.: Harvard University Press, 1938.

Bragelien, I. (2011) *Belønninger som styringsverktøy – når bør toppledelsen holde fingrene av fatet?* Magma. Vol. 05, p. 31–43.

Britton, J. & C. Propper (2015). *Teacher pay and school productivity: Exploiting wage regulation*. Journal of Public Economics, Vol. 133, pp. 75-89.

Buchanan, D.; D. Bobby; J. McCalman (January 1988). *Getting in, getting on, getting out and getting back*. London, Routledge, pp. 53–67.

Busch, T. & J. O. Vanebo (2003). *Organisasjon og ledelse - Et integrert perspektiv*. 5. utg. Oslo: Universitetsforlaget.

Colbjørnsen, T.; I. Bragelien; F. Gjesdal; K. P. Hagen; P. Heum; K. G. Salvanes (2000). *Resultatavhengig belønning - En utredning skrevet for Kreditkassen*. SNF-rapport, Nr.25/00.

Coleman, J. S; Campbell, E. Q; Hobson, C. J; McPartland, J; Mood, A. M; Weinfeld, F. D; York, R. L. (1966) *Equality of educational opportunity.* Washington, DC: U.S. Government Printing Office

Cullen, J.B. & Reback, R. (2006). *"Tinkering toward accolades: School gaming under a performance accountability system"*. NBER Working Paper #12286. Cambridge, MA: National Bureau for Economic Research.

Daniel, D. R (1961). "Management Information Crisis". Harvard Business Review, 39 (5), 111-116.

Deci, E. L. (1975). *Intrinsic motivation*. New York: Plenum.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.

Deci, Edward L., Ryan, Richard M. (2000). *Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions.* Contemporary Educational Psychology 25, no. 1 (2000): 54-67.

Deere, D. & Strayer, W. (2001). *Putting schools to the test: School accountability, incentives, and behavior*. Texas A&M University, unpublished.

Dixit, A. (2002) *Incentives and organizations in the public sector: An interpretative review,* Journal of Human Resources, 37(4), pp. 696–727.

Doran, G. T. (1981). *There's a S.M.A.R.T. way to write management's goals and objectives.* Management Review, Volume 70, Issue 11(AMA FORUM), pp. 35–36.

Eberts, R., Hollenbeck, K., & Stone, J. (2002*). Teacher performance incentives and student outcomes*. Journal of Human Resources, 37(4), 913-927.

Emery, Y. (2004). *Rewarding Civil Service Performance Through Team Bonuses: Findings, Analysis and Recommendations.* Vol. 70, Issue. 1. Sage Journals

Figlio, D. & Kenny, L. (2003). *Do individual incentives boost student performance?* Mimeograph. University of Florida.

Figlio, D. & Getzler, L. (2002). *Accountability, ability and disability: Gaming the system?* National Bureau for Economic Research Working Paper 9307. Cambridge: NBER

Flamholtz, E. G. (1983). *Accounting, budgeting and control systems in their organizational context: Theoretical and empirical perspectives*. Elsevier, Vol. 8, Issues 2-3, pp. 153-169

Freud, Sigmund (1963): *Therapy and technique,* New York: Collier.

Figlio, D. & Winicki, J. (2005). *"Food for thought? The effects of school accountability plans on school nutrition"*. Journal of Public Economics, 89, 381-394.

Figlio, D. (2003). Testing, crime and punishment. University of Florida, unpublished.

Frey, B. S. & R. Jegen (2001). *«Motivation Crowding Theory".* Journal of Economic Surveys, Vol. 15, Issue 5, s. 589-611

Gabrielsen, T.S m. fl. (2007). *Finansieringssystemet for universitets- og høyskolesektoren – teoretiske vurderinger*. A report prepared for the 'The Ministry of Education and Research', 19 May 2007.

Gabrielsen, L. E., Ulleberg, P., & Watten, R. G. (2011). *The Adolescent Life Goal Profile Scale: Development of a New Scale for Measurements of Life Goals Among Young People*. *Journal of Happiness Studies,* 13(6), 1053-1072.

Gardiner, P. D. (2005): *Project Management – A Strategic Planning Approach.* Palgrave MacMillian, Hampshire. (p. 198-203)

Ghauri, P., Grønhaug, K,. (2010) Research Methods in Business Studies: London: Prentice Hall.

Goldhaber, D., M. DeArmond and S. DeBurgomaster (2011). *''Teacher Attitudes About Compensation Reform: Implications For Reform Implementation''*, Industrial and Labor Relations Review Vol. 64, pp. 441–463.

Goodnough, A. (1999). *Answers allegedly supplied in effort to raise test scores.* Published in New York Times (December 8).

Gomez-Mejia, L.; D. Balkin & R. Cardy (2011). *Managing Human Resources.* Pearson, 7th edition.

Glass, G. V; Cahen, L. S; Smith, M. L; and Filby, N. N. (1982) *School class size: Research and Policy.* Beverly Hills, CA: SAGE Publications

Glewwe, P., Ilias, N., & Kremer, M. (2004). *Teacher incentives.* Mimeograph. Cambridge, MA: Harvard University.

Gripsrud, G., Olsen, Henning, U. (2010). *Metode og dataanalyse: Beslutningsstøtte for bedrifter ved bruk av JMP*. Oslo: J.W Cappelens Forlag

Grønmo, S. *(*2015*) Samfunnsvitenskapelige metoder*. Bergen: Fagbokforlaget (2. edition)

Hackman, J. R. & G. R. Oldham (1975). *Development of the Job Diagnostic Survey*. *Journal of Applied Psychology*, *60*(2), 159-170.

Hammond, L. Darling. (2000). *Teacher Quality and Student Achievement: A Review of State Policy Evidence.* Education policy analysis archives, Volume 8, Number 1, January. Stanford University

Haller, J. Emil; Monk, H. David (1993). Predictors of High School Academic Course Offerings: The Role of School Size, Vol. 30, Issue 1. Sage Journals

Haney, W. (2000). *The myth of the Texas miracle in education.* Education Analysis Policy Archives, 8(41).

Hannaway, J. (1992). *Higher Order Skills, Job Design, and Incentives: An Analysis and Proposal.* American Educational Research Journal, 29(1), (Spring), pp. 3-21.

Hatry, H.; J. Greiner; B. Ashford (1994). *Issues and Case Studies in Teacher Incentive Plans*. Washington, DC: Urban Institute Press. Retrieved from paper by Podgursky & Springer (2006), p. 15

Herath, S. K. (2007). *A framework for management control research.* Emerald Group Publishing Limited, Journal of Management Development, Vol. 26, issue: 9, pp. 895-915

Herzberg, F.; B. Mausner; B. B. Snyderman (1959). *The motivation to work*, New York: Wiley

Holmstrom, B. & P. Milgrom (1991). *Multi-task Principal-Agent Analyses: Incentive Contracts, Asset Ownership and Job Design*. Journal of Law, Economics & Organization, Vol. 7, s. 24-52

Hope, J. & R. Fraser (2003). *How managers can break free from the annual performance trap.* Harvard Business School Press

Hoxby, C.M. & Leigh, A. (2004). *Pulled away or pushed out? Explaining the decline of teacher aptitude in the United States.* American Economic Review, 93(2), 236-240.

Huczynski, A. A. & D. A. Buchanan (2010). *Organizational behaviour.* Financial Times/Prentice Hall, Harlow

Jacobsen, C. B; J. Hvitved; L. B. Andersen (2013) *Command and Motivation: How the perception of external interventions relates to intrinsic motivation and public service motivation*. John Wiley & Sons Ltd., Public Administration, Vol. 92, No. 4, pp. (790-806).

Jacob, B. (2005). *Accountability, Incentives and Behavior: the impact of high-stakes testing in the Chicago Public Schools*. Journal of Public Economics, Vol. 89, Issue 5-6, s. 761-796

Jacob, B. A. & Levitt, S. D. (2005*). Rotten apples: An investigation of the prevalence and predictors of teacher cheating.* Quarterly Journal of Economics, 118 (3), pp 843-877

Jencks, C; Smith, M; Acland, H; Bane, M. J; Cohen, D; Gintis, H. et al. (1972): *Inequality: A reassessment of the effect of family and schooling in America.* NY: Basic Books

Johannessen, A., Tufte P. A., Christoffersen, L. (2011). *Introduksjon til samfunnsvitenskapelig metode*, 4. Utgave, 2. Opplag, Abstrakt

Kane, T.J., Rockoff, J.E., & Staiger, D.O. (2004). *Identifying effective teachers in New York City*. Paper presented at NBER Summer Institute.

Kandel, E. & Lazear, E. (1992). *Peer pressure and partnerships.* Journal of Political Economy, 100, 801-817.

Kaufmann, A. & G. Kaufmann (1998). «Psykologi i organisasjon og ledelse». 2. utg. Publisher: Fagbokforlaget, Bergen

Kaplan, Robert S. & David P. Norton (1992). *The Balanced Scorecard – Measures that Drive Performance.* Harvard Business Review, January-February

Koretz, D. et al. (1999). *Perceived Effects of the Kentucky Instructional Results Information System (KIRIS)*. Santa Monica, CA: RAND Corporation

Kuvaas, B. and A. Dysvik (2008). «Lønnsomhet gjennom menneskelige ressurser.» Evidensbasert HRM.

Kuvaas, B. & Birkeland, Ide. K (2018). *Undersøkelse om lokale lønnstillegg i barnehage og skole.* Published by: BI, Norwegian Business School in 2018.

Kvale, Steinar (1997): *Det kvalitative forskningsintervju*, Oslo: AD Notam Gyldendal

Langeland, O. (1999): *«Kompensasjon og motivasjon, Overskuddsdeling og medeierskap i norske bedrifter»*. Forskningsstiftelsen Fafo, Oslo.

Locke, E. A., & Latham, G. P. (2006). *New Directions in Goal-Setting Theory,* 15(5), 265–268.

Locke, E. A. (1968). *Toward a Theory of task motivation and incentives: Organizational Behaviour and Human Performance*. Elsevier, Vol. 3, Issue 2, pp. 157-189

Lazear, E. P. (2000). *Performance Pay and Productivity: The American Economic Review* 90 (5): 1346–1361. Economics of Education Review 28 (6): 682–692.

Lazear, E. P. & M. Gibbs. (2009) *"Personnel Economics in Practice*". Publisher: John Wiley & Sons Inc. New York

Lavy, V. (2004). Performance Pay and Teachers' Effort, Productivity and Grading Ethics. National Bureau for Economic Research Working Paper 10622. Cambridge: NBER.

Lepper, M. R., Greene, D., & Nisbett, R. E. (1973). *Undermining children's intrinsic interest with extrinsic rewards: A test of the ''overjustification'' hypothesis*. Journal of Personality and Social Psychology, 28, 129–137.

Leigh A. (2012). *The Economics and Politics of Teacher Merit Pay.* Oxford University Press on behalf of Ifo Institute for Economic Research, Munich.

McKenzie, P., J. Kos, M. Walker and J. Hong (2008) *Staff in Australia's Schools 2007*, Canberra: DEEWR

Malmi, T. & D. A. Brown (2008). *Management Control Systems as a package – opportunities, challenges and research directions*. Elsevier, Vol. 19, Issue 4, pp. 287-300

Malina, M. A & F.H. Selto. (2001) *Communicating and Controlling Strategy: An Empirical Study of the Effectiveness of the Balanced Scorecard*. Journal of Management Accounting Research, 13, 47-90.

Maslow, A. H. (1943). *A theory of human motivation.* Publisher: Psychological Review, Vol. 50, s. 370 – 396

Merchant, K. A. & D. Otley (2006). *A Review of the Literature on Control and Accountability.* Amsterdam: Elsevier BV Handbooks of Management Accounting Research, ISSN: 1751-3243, Vol: 2, Page: 785-802

McClelland, D. (1978). *Human Motivation*. Cambridge: Cambridge University Press

McCaffrey, D.F., Lockwood, J.R., Koretz, D.M., & Hamilton, L.S. (2003). *"Evaluating value added models for teacher accountability"*, MG-158-EDU. Santa Monica, CA: RAND Corporation

McCaffrey, D.F., Lockwood, J.R., Koretz, D., Louis, T.A. & Hamilton, L.S. (2004). *"Models for value-added modelling of teacher effects"*. Journal of Education and Behavioural Statistics, 29(1), 67- 101.

Merchant - K. A. & Van der Stede - W.A. (2017). *Management control systems: performance measurement, evaluation and incentives*. Harlow, UK; Pearson.4. Edition

McGregor, D. (1960). *The human side of enterprise*. NY: McGraw-Hill, 1960

Mosteller, F. (1995): *The Tennessee study of class size in the early school grades. The Future of Children*, 5, 2, 113-127

Murnane, R. J., & Olsen, R.J. (1990). *The effects of salaries and opportunity costs on length of stay in teaching: Evidence from North Carolina*. Journal of Human Resources, 25(1), 106–124.

Murnane, R. J. & D. Cohen (1986). *Merit pay and the evaluation problem: Why most merit pay plans fail and few survive*. Harvard Education Review, 56(1), 1-17. Retrieved from paper by Podgursky & Springer (2006), p. 15

Niven, P., (2006). Balanced Scorecard: Step-by-step: Maximizing Performance and Maintaining Results. Hoboken, NJ: John Wiley & Sons

Website: Oslohoyre.no
Ekstra oppmerksomhet til lærerne (Published online: 14 May 2015)
Retrieved from URL (06. February 2019):
https://www.oslohoyre.no/oslohoyre/ekstra-oppmerksomhet-til-de-flinkeste-larerne/

Otley, D. (1987). *Accounting Control and Organisational Behaviour.* CIMA Publishing 01. January 1987. First edition.

Parmenter, D. (2015). *Key Performance Indicators for Government and Non Profit Agencies.* Hoboken, New Jersey: John Wiley & Sons, inc.

Peabody, Z. & Markley, M. (2003). S*tate May Lower HISD Rating; Almost 3,000 Dropouts Miscounted, Report Says.* Houston Chronicle, June 14, A1.

Pinder, C. (1998). *Work motivation in organizational behaviour.* New Jersey: Prentice-Hall,

Pink, D. (2009). *The surprising truth about what motivates us.* New York: Riverhead books

Podgursky, M. J. & Springer, M. G. (October 24, 2006) *Teacher performance pay: A review.* Journal of Policy Analysis & Management, Vol. 26.

Podgursky, M., Monroe, R., & Watson, D. (2004). *The academic quality of public-school teachers: An analysis of entry and exit behaviour*. Economics of Education Review, 23(5), 507-518.

Prendergast, C. (1999). *The Provision of Incentives in Firms*. Journal of Economic Literature, Vol. 37, No. 1, s. 7 – 63

Website: Regjeringen.no. «*Kunnskapsløftet*»
National curriculum for knowledge promotion in primary and secondary education and training: "Kunnskapsløftet". Retrieved from URL (10. March 2019): https://www.regjeringen.no/no/tema/utdanning/grunnopplaring/kunnskapsloftet/id534689/

Website: regjering.no. *A record-breaking number of teachers has applied for postgraduate* Retrieved from URL (02 May 2019): https://www.regjeringen.no/no/aktuelt/rekordmange-larere-har-sokt-videreutdanning/id2631431/

Samuelson, L. A (2004) *Controller-handbook,* Stockholm. Publisher: Teknikföretagen: Industri Litteratur

Saunders, M., Lewis, P. & Thornhill, A. (2003): Research Methods for Business Students. Third edition. Prentice Hall, Harlow.

Sekaran, U. & Bougie, R. (2016) *Research Methods for Business: A Skill-building Approach*. 7. Edition. NY, United States: John Wiley & Sons Inc.

Shields, J. (2007): *Managing Employee Performance and Reward - Concept, Practices, Strategies.* Cambridge University Press, p. 128-130

Web-article:
Sissener, J. Petter. (23. January 2019). Erna Solberg: "Lærere trenger dobbelt lønn". *Gode lærere er helt avgjørende for at barna våre skal bli godt forberedt til morgendagens samfunn. Derfor trenger vi de beste lærerne.* Retrieved from URL (12. March 2019): https://www.nettavisen.no/nyheter/erna-solberg-laerere---trenger-dobbelt-lonn/3423451239.html

Sink, D. S. (1991). *The role of measurement in achieving world class quality and productivity management*, Industrial Engineering, June.

Simons, R. (1987) *Accounting control systems and business strategy: An empirical analysis,* Accounting, Organizations and Society, 12, pp. 357–374

Simons, R. (1990) *The Role of Management Control Systems in Creating Competitive Advantage: New Perspectives.* Accounting, Organizations and Society, Vol. 15, No. 112, pp. 127-143. Great Britain: Harvard University Graduate School of Business Administration

Simons (1995). Levers of Control: How Managers Use Innovative Control Systems to Drive Strategic Renewal, Harvard Business School Press.

Thagaard, T. (2011). *Systematikk og innlevelse: En innføring i kvalitativ metode*. Bergen: Fagbokforlaget. 3. Utgave

Tjora, A. (2012). *Kvalitative forskningsmetoder i praksis. Oslo: Gyldendal Norsk Forlag, 3. edition*

Website: Utdanningsforbundet.no
Vik, G. Marius og Grøttvik, R. (Published: 27. September 2017). *OECD-rapport: Norsk lærerlønn dårligst i Norden*. Retrieved from URL (17. April 2019): https://www.utdanningsforbundet.no/nyheter/2017/oecd-rapport-norsk-larerlonn-darligst-i-norden/

Website: Utdanningsnytt.no
Holterman, S (Published: 16. September 2017) *Færre offentlige skoler, flere private*. Retrieved from URL (18. April 2019):
https://www.utdanningsnytt.no/nyheter/2017/september/farre-offentlige-skoler-flere-private/

Website: Utdanningsforbundet
Retrieved from URL (28. January 2019):
https://www.utdanningsforbundet.no/lonn-og-arbeidsvilkar/lonnskalkulator/

Van Dooren, Bouckaert, Halligan (2015) *Performance Management in the Public Sector*. Routledge, 2. Edition

Vroom, V. H. (1964). *Work and motivation*. New York: John Wiley & Sons Inc

Vyrastekova, J.; S. Onderstal; P. Konig (2006). *Team incentives in public organisations: An experimental study*. CPB Discussion Paper No. 60. The Hague: Netherlands Bureau for Economic Policy Analysis.

Wallander, J (1999): *Budgeting -- An Unnecessary Evil.* Scandinavian Journal of Management, 15, s. 405-421.

Whetten, D. A & K. S. Cameron (2002). *Developing management skills.* Upper Saddle River: Prentice-Hall (5th ed.)

Witham, P. J., J. L. Lewis, M. G. Springer and J. W. Guthrie (2008). Evaluation of Butler County's PayPLUS Salary Augmentation System, Management Analysis and Planning Inc, Davis, CA.

Website: udir.no
Core Curriculum for Primary, Secondary and Adult Education in Norway
Retrieved from URL (05. April 2019):
https://www.udir.no/globalassets/filer/lareplan/generell-del/core_curriculum_english.pdf

Website: udir.no
Retrieved from URL (04. April 2019):
https://www.udir.no/globalassets/upload/larerplaner/fastsatte_lareplaner_for_kunnskapsloeftet/prinsipper_lk06_eng.pdf

Website: udir.no

The Directorate of Education, (2006) (utdanningsdirektoratet, 2006), last revised in 2015: Retrieved from URL (14. May 2019): https://www.udir.no/laring-og-trivsel/lareplanverket/prinsipper-for-opplaringen2/

10.0 Appendix

Attachment 1: The knowledge promotion reform

- Give all pupils and apprentices/trainees equal opportunities to develop their abilities and talents individually and in cooperation with others (Section 1-2 of the Education Act and Chapter 5, and the Core Curriculum)

- Stimulate the stamina, curiosity and desire of pupils and apprentices/ trainees to learn (Section 1-2 of the Education Act, and the Core Curriculum)

- Stimulate pupils and apprentices/trainees to develop their own learning strategies and critical-thinking abilities (Section 1-2 of the Education Act, and the Core Curriculum)

- Stimulate pupils and apprentices/trainees in their personal development, in the development of identity and ethical, social and cultural competence, and in the ability to understand democracy and democratic participation (Section 1-2 of the Education Act, and the Core Curriculum)

- Facilitate for pupil participation and enable pupils and apprentices/trainees to make informed value choices and choices relating to their education and future professions/occupations (Section 1-2 of the Education Act, Chapter 22 of the Regulations and the Core Curriculum)

- Promote adapted teaching and varied work methods (Section 1-2 of the Education Act and Chapter 5, and the Core Curriculum)

- Stimulate, use and further develop each teacher's competence (Chapter 10 of the Education Act)

- Help teachers and instructors to be seen as positive leaders and as role models for children and young people (The Core Curriculum)

- Ensure that the physical and psychosocial working and learning environments promote health, well-being and learning (Chapter 9a of the Education Act)

- Facilitate for cooperation with the home and ensure the co-responsibilities of parents and guardians (Section 1-2 of the Education Act and section 3-2 of the Regulations)

- Ensure that the local community is involved in the education in a meaningful way

Attachment 2: Interview guide for teachers

Presenting the subject:

- Introduce ourselves
- Give a brief introduction to the subject and explain the reasoning as to why we are conducting the interview.
  - Clarify that we want to look at the subject of performance-based pay as variable in the form of bonuses.
- Point out that any remarks made by the interviewees are anonymous and ask for permission to record the interview.

Introductory questions:

· How long have you been working as a teacher?

- In your opinion: What does it entail to be a 'good' teacher?

Motivation:

- What are the main motivational factors with being a teacher? What motivates you?
- To what degree would you be motivated by the prospect of receiving a salary increase?
- Are there non-monetary rewards that could motivate you more than a potential salary increase?
  - Autonomy, leisure time, acknowledgements or other social accolades?

Attitude towards the current salary system:

- Would you say that you are satisfied with the current salary system for teachers?
  - If so, why? And if not, why?
- Are there individual salary increments on the basis performance at your school?
  - i.e. additional salary for taking on responsibility as *head teacher* or *homeroom teacher?*
- In your opinion: what are the main drawbacks or perhaps shortcomings of the current salary system?

- If you had the ability to make alterations to the current salary system, what would these alterations entail?

Performance-based pay for teachers:

- What is your opinion on performance-based pay for teachers?
  - Could this be successfully implemented in the Norwegian school system?
  - What are the possible challenges and opportunities with the implementation.

Evaluation:

- If teachers were to be the recipients of performance-based pay. Do you have any recommendations as to which parameters such a compensation could be based on?
  - i.e. Grades, employee surveys, standardized test scores, ability to cooperate, the amount of time spent outside of the normative teaching hours etc.
- Would the administration at your school be able to provide parameters in order to sufficiently measure your performance?
- Would you prefer if additional salary increases were distributed on the basis of groups, the individual teacher or on an organizational level?

Performance-based pay system; influencing how teachers prepare their lectures:

- Would the implementation of performance-based pay have an impact on what areas you direct your attention towards?
  - Do you think it could have an impact on how you outlined your lectures or perhaps your teaching hours?

Recruitment:

- Could the implementation of performance-based pay have an impact on the aspect of recruitment within teaching?

How to reward 'good' teachers:

- In your opinion: how is the best way to reward teachers who are performing well and delivering good results?
    - Bonus

1. Salary-step increase
2. Temporary salary-increases tied to having more responsibility
3. Other accolades: (Flowers, ‘teacher of the year, etc.)

Attachment 3: Interview guide for principals

Presenting the subject:

- Introduce ourselves
- Give a brief introduction to the subject and explain the reasoning as to why we are conducting the interview.
    - Clarify that we want to look at the subject of performance-based pay as variable in the form of bonuses.
- Point out that any remarks made by the interviewees are anonymous and ask for permission to record the interview.

Introductory questions:

- How long have you been working as a principal?
- How would you elaborate on what a teacher is motivated by?
- In your opinion; what does it entail to be a 'good' teacher?

Bonus:

- Do you currently have any additional salary increases at your school? If you do, how would these be divided/distributed? Does it involve negotiations or is it more of an automated process?
- What is your opinion on bonus schemes in the school?
    - Do you think that this could be a beneficial addition?
- In your opinion: what type of pay scheme would you most like to see at your school?
    - Would more people be in favour of non-reversible salary increases which essentially elevates your annual fixed salary or receiving bonuses on top of your annual salary with the potential for considerable higher compensation?
    - Would the potential for higher salaries induce a higher level of effort within the teaching staff?
- Teaching is associated with team-based tasks, but also individual. What would best suite the characteristics of teaching? Individually- or team-based bonus scheme?
    - Would bonus schemes contribute to the collective collaboration or would it represent a competitive aspect in teaching?

- Do you have any comments as to whether new hires are more intrigued by the potential of bonuses in the school than the more experienced teachers?
- What are the main challenges with implementing a bonus scheme in today's public-school system?
    - Unjustified treatment?

Evaluation:

- What is your opinion on how teachers are evaluated today?
    - Are teachers evaluated too much or too little?
- Would you be comfortable ranking/measuring your teaching staff?
    - Do you feel like you have the necessary insight to rank or measure your teachers?
        - To what degree are you involved in you teachers work and do you have an opinion on whether some teachers are putting in more effort than others?
    - If you were to measure your teachers, how would this process be outlined?
    - Would standardized test scores be a 'good' indicator of a teachers' performance?

Recruitment and retention:

- Do you have any suggestions in relation to the recruitment and retention of 'good' teachers?
    - Would you consider an alteration to the current salary system as a potential factor in this regard?

Measurability issues:

- There are several dimensions which teachers must accommodate to, which makes the performance measures for a teacher diverse. How would you assess the potential for certain distortions, and could these affect the teachers in a negative way? ('teaching for the test')
- In your opinion: are there issues regarding measurability in today's school?
    - If so, how could this be improved or dealt with?

- The knowledge promotion reform is significant in teaching. Could you suggest a way of accounting for this reform in the process of measuring performance?
- In your opinion: what are the main reasons as to why performance-based pay is not implemented in the public school?
- If you were assigned a ‘pot’, or a certain amount of money which were earmarked to be distributed amongst the teachers. How would you go about this process?
    - Equally, perhaps because you would like to be perceived as impartial and fair, or would you simply exercise your own methods in the distribution of resources amongst the teachers?
- Are there other methods for rewarding ‘good’ performances at your school? (i.e. teacher of the year, diplomas or similar initiatives?)

Attachment 5: Email sent to the schools

Hei!

Vi er to studenter som er i gang med vår masteroppgave innen Økonomi og Administrasjon. I utredningen har vi valgt å se på sammenhengen mellom motivasjon og type avlønning i skolesystemet og i forbindelse med dette ønsker vi veldig gjerne å gjennomføre et veldig kort intervju med deg, som kun vil ta 20-30 minutter. Vi er åpen for å gjennomføre intervjuet snarest eller senere, det kommer helt an på når det passer for dere. Vi foreslår eksempelvis *(dato)* eller *(dato)* som utgangspunkt, men stiller oss selvfølgelig tilgjengelig ved andre tidspunkter.

Hensikten med intervjuene er å få bedre forståelse for lærere sine holdninger til prestasjonsbasert avlønning og sammenhengen mellom avlønning, innsats og motivasjon. Undersøkelsen vil selvfølgelig presenteres som anonym og innsamlet data vil bli behandlet på forsvarlig måte i henhold til NSD sine retningslinjer og regelverk, uten tilgang for andre som ikke er delaktige i utredningen. Dersom du har noen spørsmål eller ønsker mer informasjon, ta gjerne kontakt med oss på telefon eller e-post. Vi hadde satt veldig stor pris på å høre dine tanker og håper på positiv respons på henvendelsen.

Vi ser frem til å høre fra deg.

Med vennlig hilsen,
Håkon Bakkejord og Harald Steen Fjellstad

Håkon Bakkejord
Tlf: 906 54 782
E-post: hakon_bakkejord@hotmail.com

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Attachment 6: Overview of interview respondents

Location	Number of respondents	Time-period	Number of Schools
Oslo	2	11.03.19-15.03.19	2
Vest-Agder	4	18.03.19-21.03.19	4
Akershus	1	09.04.2019	1
Trøndelag	2	11.05.19-23.05.19	1

Attachment 7: Declaration of consent for teachers and principals

Vil du delta i forskningsprosjektet

"Performance-based bonuses in the public educational sector"

Dette er et spørsmål til deg om å delta i et forskningsprosjekt hvor formålet er å belyse temaet "prestasjonsbaserte avlønninger i skolesystemet". I dette skrivet gir vi deg informasjon om målene for prosjektet og hva deltakelse vil innebære for deg.

Formål

Formålet med prosjektet er å besvare den valgte problemstilling i vår avsluttende oppgave i forbindelse med vårt masterstudiet ved Økonomi og Administrasjon.
Problemstillingen i oppgaven lyder som følger:

"Could a performance-based pay scheme in the form of bonuses help to increase teacher performance level? What are the main challenges and possibilities when designing and implementing a performance-based pay scheme in the Norwegian public educational sector?"

Prestasjonsbasert avlønning i skolesystemet er et omdiskutert og interessant tema som det har vært mye fokus på i litteratur og relevante fagmiljøer de siste årene. Det økte fokuset på problemområdet kommer som et resultat av at prestasjonsbasert avlønning stadig blir mer brukt i andre sektorer, i tillegg til et generelt press på politikere til å oppnå bedre resultater og effektivitet i skolen.

Hvem er ansvarlig for forskningsprosjektet?

Økonomisk institutt ved Universitet i Agder er ansvarlig for prosjektet. Prosjektansvarlig er Rafael Heinzelmann.

Hvorfor får du spørsmål om å delta?

Intervjuobjekter er tilfeldig utvalgt med unntak av at personene må være ansatt ved en skole i det norske skolesystemet og ha tittelen lærer, rektor, eller assisterende rektor. Vi har ingen videre kriterier i forbindelse med utdannelsesgrad eller undervisningsområde for den enkelte lærer og rektor. Vi er interesserte i å komme i kontakt med minimum 20 lærere og 5 rektorer spredt utover forskjellige skoler.

Hva innebærer det for deg å delta?

Dersom du velger å delta i prosjektet, innebærer det at du deltar på et enkelt intervju. Intervjuene vil foregå ved institusjonen der du er ansatt og du vil bli spurt om din arbeidsdag og arbeidsmetoder, samt ditt forhold til motivasjonsfaktorer og avlønning. Opplysningene du oppgir vil registreres elektronisk som intervjunotater eller ved lydopptak. Dersom du ikke ønsker at intervjuet skal bli tatt opp som lydopptak vil vi kun notere informasjon som blir oppgitt.

Vi vil på intervjudagen presentere oss selv og intervjuspørsmålene, slik at det er forståelse mellom deg som intervjuobjekt og oss som intervjuere. Vi sikter på å få frem tydelig hvorfor vi gjør dette intervjuet og videre hvorfor informasjonen er nyttig for oss.

Det er frivillig å delta

Det er frivillig å delta i prosjektet. Hvis du velger å delta, kan du når som helst trekke samtykke tilbake uten å oppgi noen grunn. Alle opplysninger om deg vil da bli anonymisert. Det vil ikke ha noen negative konsekvenser for deg hvis du ikke vil delta eller senere velger å trekke deg.

Ditt personvern – hvordan vi oppbevarer og bruker dine opplysninger

Vi vil bare bruke opplysningene om deg til formålene vi har fortalt om i dette skrivet. Vi behandler opplysningene konfidensielt og i samsvar med personvernregelverket.

- Det er kun prosjektdeltakere som vil ha tilgang til opplysningene, nærmere bestemt Håkon Bakkejord, Harald Steen Fjellstad og prosjektansvarlig Rafael Heinzelman.
- Navnet og kontaktopplysningene dine vil erstattes med en kode som lagres på egen navneliste adskilt fra øvrige data. Opplysningene lagres på en passordbeskyttet server som kun prosjektmedlemmene har tilgang til.
- I publikasjonen av avhandlingen vil ikke intervjudeltakere kunne identifiseres.

Hva skjer med opplysningene dine når vi avslutter forskningsprosjektet?

Prosjektet skal etter planen avsluttes den 01.06.2019 og all informasjon om intervjuobjektene vil på dette tidspunktet slettes. Opplysningene fra intervjuene som blir brukt i oppgaven vil da fortsatt være tilgjengelig i oppgaven.

Det vil ikke forekomme noen oppfølging etter prosjektslutt, men du kan få tilsendt oppgaven hvis ønskelig. All arkivert data med personopplysninger vil da slettes etter prosjektslutt.

Dine rettigheter

Så lenge du kan identifiseres i datamaterialet, har du rett til:

- innsyn i hvilke personopplysninger som er registrert om deg,
- å få rettet personopplysninger om deg,
- få slettet personopplysninger om deg,
- få utlevert en kopi av dine personopplysninger (dataportabilitet), og
- å sende klage til personvernombudet eller Datatilsynet om behandlingen av dine personopplysninger.

Hva gir oss rett til å behandle personopplysninger om deg?

Vi behandler opplysninger om deg basert på ditt samtykke.

På oppdrag fra Økonomisk institutt ved Universitet i Agder har NSD – Norsk senter for forskningsdata AS vurdert at behandlingen av personopplysninger i dette prosjektet er i samsvar med personvernregelverket.

Hvor kan jeg finne ut mer?

Hvis du har spørsmål til studiet, eller ønsker å benytte deg av dine rettigheter, ta kontakt med:

- Håkon Bakkejord ved Universitetet i Agder
  Tlf. 90 65 47 82
  På epost hakon.bakkejord@uia.no

- Harald Steen Fjellstad ved Universitetet i Agder
  Tlf. 98 40 35 26
  På epost harald.steen@uia.no

- Førsteamanuensis Rafael Heinzelman ved Økonomisk Institutt Universitetet i Agder
  Tlf. 38 14 20 39
  På epost rafael.heinzelman@uia.no

- Personvernombud ved Universitetet i Agder Ina Danielsen
  Tlf. 45 25 44 01
  På epost ina.danielsen@uia.no

- NSD – Norsk senter for forskningsdata AS
  Tlf. 55 58 21 17
  På epost personverntjenester@nsd.no

Med vennlig hilsen

Student Student

Samtykkeerklæring

Jeg har mottatt og forstått informasjon om prosjektet *"Prestasjonsbasert avlønning i skolesystemet"*, og har fått anledning til å stille spørsmål. Jeg samtykker til:

- ☐ å delta i intervju
- ☐ at prosjektdeltakerne tar opp intervju på lydopptaker
- ☐ at mine personopplysninger (navn, stilling og skole) lagres til prosjektslutt (01.06.2019).

Navn, stilling eller skole vil ikke publiserer i oppgaven og er lagres kun av praktiske formål.

- ☐ Jeg ønsker å få tilsendt masteroppgaven når den er tilgjengelig

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Navn, sted, dato

Attachment 8: Reflection note, By Harald Steen Fjellstad

BE-501, Master Thesis in Business Administration (2019)

Research question:

"Could a performance-based pay scheme in the form of bonuses help to increase teacher performance level? What are the main challenges and possibilities when designing and implementing a performance-based pay scheme in the Norwegian public educational sector?"

The theme of our master thesis is performance-pay for teachers employed in public middle schools in Norway. This topic has not been extensively researched in the context of Norwegian public middle schools, but the concept of performance-pay is widely known abroad in countries such as the US and in that sense to a large degree internationalised. The theme is contextual, nuanced and demands a thorough theoretical and literature-based foundation. The theoretical section mostly consists of theory on management control systems (MCS) where incentives, performance-pay and distortions are important subjects. Our thesis contains an influential motivational aspect therefore we had to allocate a large portion of the theoretical section to theory on motivation where the distinction between intrinsic and extrinsic motivation is being made. In order for us to base our thesis on relevant and credible data, we have opted for an exploratory research design which is suitable for interpretative data. I would argue that most of the subjects I have taken at the University of Agder have provided me with beneficial insight which was crucial for the completion of this thesis.

We have structured our analysis of the research question in two parts. In the first part we have tried to answer if the introduction of performance-based pay could elevate the teachers' performance and what effects this would have on both the teachers and the overall agenda of the school. In the second part of our analysis we have tried to concretize the main challenges and opportunities in relation to the implementation of performance-pay in today's public school.

As we are investigating this topic in the context of Norwegian public schools our thesis contains certain refinements especially in relation to the fact that most of our literature is derived from other countries, making it a thesis based on an internationally acknowledged subject. We have elected to research the impact of variable pay or a bonus scheme on the teachers' performance making it more relatable to other countries salary systems for teachers, but highly differentiated from the current Norwegian salary system. In this sense the literature review is more relatable to our research question than if we had chosen to investigate the impact of differentiated fixed salary increases. We have also chosen to refine our thesis geographically by only researching the effects on teachers and principals in Oslo and Kristiansand. Since we are interested in explorative/exploratory data we have chosen a multiple-case study design for our data gathering method. As we have not included a questionnaire or incorporated quantitative data in our thesis this could be considered as another refinement.

My initial thought at the earlier stages of mapping out our thesis was that the challenges would far outweigh or overshadow the opportunities. From the interviews where we addressed both teachers and principals we were able to gather valuable information which enriched our thesis. The majority of the teachers and principals were more or less shut down to the idea of implementing performance-pay in the public educational sector. They pointed to issues of measurability, lacklustre culture for performance related activities and overall negative attitudes as the main deciding factors as to why the implementation would not be successful. To some extent, their view in this regard could be backed by theory as it is suggested that the public sector is lacking a market, driven by competition to be influential in the computation of the salary level, meaning that external interventions would have to be influential in deciding their pay, which could crowd-out the teachers' motivation given the fact that teachers' seemingly are driven by internal factors. Both the teachers and the principals we interviewed were against having a large portion of their salary decided by a technocratic system which had no real insight into their actual work performance. The idea that their salary to a large extent would be decided by their students' achievements was also something that frightened the teachers'. They mentioned among other factors that a certain subjective experience-degree would always be connected with the measuring of teachers' performance.

There were however some that supported the idea of being measured on the basis of their individual performance. These individuals were concerned that their contribution to the school objectives could not be easily isolated from the other contributors enabling the introduction of certain distortions associated with behavioural displacement and the problem of free-passengers.

Internationalisation

There are undoubtably certain international aspects which has an impact on how teachers are evaluated on the basis of their performance. As other countries alter their expectations towards their teachers, so could the Norwegian Directorate of education be "forced" to alter the knowledge promotion reform in order to be "better" suited the international climate. I am however of the opinion that the public educational sector in Norway is not influenced to a large degree by international aspects and we have in the process of interviewing both teachers and principals been able to extract that the current culture in the Norwegian public school is not well suited for the implementation of variable pay. This is tied to internationalisation due to the fact that bonus and incentives in the school system is more widely used in other countries.
One of the opportunities we have been able to identify with the implementation of performance-pay is related to the recruitment of teachers' who possess a certain expertize in elevating their students' achievements. This could attract teachers from other countries to come and work in Norway which would be influential in the internationalisation of students.

Innovation

The theme of our thesis is performance-based pay in the public-school sector. This is a theme that very much translates with innovation or that could be positively influenced by innovative suggestions, given the fact that we have come to the conclusion that at this stage, the implementation would not be successful. A successful implementation of variable pay in the public school would demand a new way of thinking about the performance of teachers as well as innovative solutions in order to side-track some of the negative distortions we have discovered as consequences of the implementation. In my opinion, this to a large extent depends on how the Directorate of Education plans on evaluating teachers in the future. Teachers' evaluations are differentiated across separate schools which poses as one obstacle in attaining procedural justice in the incentivizing of teachers. How can we obtain a similar evaluation of teachers across different school's in the current system? One place to start could be by altering the knowledge promotion reform. Teachers are supposed to perform on several areas and some would suggest, too many areas. This highlights the need for innovative solutions in order to enhance the measurability of teachers' performance.

The problem we have deemed as the most profound in estimating a teachers' contribution to the schools strategic objectives is related to the measurability of the profession it-self as a creative occupation which many researchers have deemed non-profitable or creatively-stagnating to indulge in performance-measuring.

The thesis does recommend that further research needs to be done on the topic of performance-pay and incentives in the public sector, given that the current research articles available in the context of Norway is relatively scarce. Creative and innovative suggestions towards making the occupation of teaching more easily measurable perhaps by establishing measures or KPI's which are deemed objective by both the teachers' as well as the policy-makers.

Responsibilities

In my opinion, this is the theme which most translates to the public educational sector in Norway. There are undoubtedly ethical issues related to the topic of our research, provided by the distortions we have been able to observe and highlight in our interview process as well as investigation of the public educational sector. Teachers are undoubtedly an important factor in the process of creating sustainable human capital in the future. Therefore, by implementing variable pay in order to enhance their performance in doing so, could be suggested as a potential for adding an element of 'risk' in an ethical sense in the educational sector.

Teachers do have tremendous responsibility in relation to the nature of their work, but the issue in measuring their performance and in turn rewarding this elevated performance is difficult due to the fact that the occupation of teaching does not contain objective metrics of performance aligned with other professions in the society. Another relevant factor is that the outcome of a teachers' performance is not easily recognised in the sense that their students' outcome (output) is not visiable until years after they have left the educational institution and began working and creating value for their employer.

Lastly I would like to say that my time at the University of Agder has brought me a lot of knowledge, which has been tied to the conclusions of this thesis. Subjects such as Management Control Systems, ethics and several organizational-subjects have been implemented into this thesis and are heavily linked to the three areas of: Internationalisation, Innovation and Responsibility.

Harald Steen Fjellstad 31.05.2019, Kristiansand

Attachment 9: Reflection note, By Håkon Bakkejord

BE-501, Master Thesis in Business Administration (2019)

The master thesis I have written in collaboration with a fellow master student aims to analyze how monetary bonuses could have an effect on Norwegian teachers', and to identify the main challenges and possibilities associated with implementation this type of performance-based pay scheme in the Norwegian educational sector. In our thesis we answer a two folded research question by conducting a multiple case study with an exploratory approach. We have gathered data through nine in-depth interviews with both teachers and principals employed in schools in Akershus, Trøndelag, Kristiansand and Oslo.

During our research we found that teachers are opposed to performance-pay because they believe the dimensions of their performance is to diverse and complex to be measured by management. They are also of the opinion that each teachers' contribution to student knowledge level could be difficult to separate from what other teachers have contributed with. Teacher and principals also believe that performance-pay does not fit the culture of the Norwegian educational sector where teachers are used to receiving equal treatment, which would not be the case if bonuses were implemented. Another significant finding is that teachers are not motivated by pay and that they value other types of rewards higher.

We find most of our findings to be in line with empirical evidence from studies conducted in other countries, while others are more particular for the Norwegian sector. Norwegian teachers seem to be more opposed to the aspect of performance pay than foreign teachers. They also argue that a general salary increase would be more appropriate, because a higher base salary could help lift the reputation of the teaching profession, and eventually have recruitment and retention benefits.

In our thesis we conclude that the current salary system could be considered as sufficient, while there is room for improvement. The salary system lacks pay for additional efforts and the opportunity to earn more if a teacher wants this. We also find that the teaching profession is in fact difficult to measure because teacher work has many and complex dimensions. We also conclude that the teachers' contribution to each students' knowledge could be considered as difficult to separate, which make group bonuses more beneficial to implemented, and not individually based bonuses.

We also find teachers' to be more intrinsically and prosocially motivated, and that external rewards could crowd out this type of motivation, which will not be beneficial for teacher performance. Because teachers are not easily motivated by external rewards in the form of financial bonuses, we recommend that other rewards such as vacation days or facilitating each teachers work schedule to be less demanding to be better rewards. We also find that praise and acknowledgement play an important role in motivating Norwegian teachers.

In terms of the challenges and possibilities associated with implementing bonuses in the Norwegian educational sector, the main challenges our analysis uncover are amongst others; the lack of current measurement and evaluation procedures of teachers, which means that bonus system is not readily for implementation. We also find measurability issues, where the dimensions of teachers' performance could be considered as difficult to capture with reliable performance indicators. In terms of possibilities we conclude that bonuses could help direct teachers' efforts towards organizational objectives and long-term value creation, which is in line with relevant theory on management control. Another highlight of our conclusion on possibilities is the potential for recruitment and retention benefits.

International

While the topic of my master thesis evolves around the Norwegian educational sector and how the actors in this sector could respond to performance-based pay schemes, the content of the thesis and the empirical analyses is affected by internationalization and globalization. The topic of the thesis was also party chosen because of our interests in analyzing whether the employees in the Norwegian educational sector are different from employees who are employed in other countries. This is however not the main purpose of the thesis.

While bonus schemes are a much used type of remuneration in the Norwegian public and private labor market, this type of pay originates from the US where it was introduced 1980s to incentivize CEOs to focus on shareholder value. During my educational I have often reflected on how much Scandinavian countries are influenced by foreign policies, and how Norwegian firms try and implement management control systems which have had success in other countries. As our thesis reckons, even though these systems have foreign success, this is not always likely to become reality in the Norway; our thesis show that Norwegian teachers believe that the system does not fit the culture of the sector where teachers are used to equal treatment from management and pay. This shows that cultural difference plays a predominant role in explaining how management control system have different success in different countries.

Because bonuses are not much used in the Norwegian educational sector, extensive research have not been conducted on whether or not this system would be a success. However, the system is more used in foreign educational sectors, and the empirical section of our thesis consist of results from studies which have been conducted in e.g. Kenya, England, Israel and the US. In some of these studies, theorists address how technology and big data could revolutionize the measurement procedures in the educational sector. Utilizing big data is an international trend in management control. The Norwegian educational sector does not seem to be as focused on utilizing this technological advancement currently, but this technological tool could perhaps help with measurement issues associated with Norwegian teachers' performance.

In our thesis we also discuss how information flows rapidly in the modern area and that employees have easy access to salary information and information on potential job opportunities. This is mostly discussed in relation to the domestic labor market in Norway, but could also be viewed in the context of the international information flow, which makes competition for the most valuable assets in the labor market an international competitive phenomenon. As globalization and internationalization have developed during the course of my education, information has become more available through technological advancements, and the Internet. I have observed my fellow graduates to be applying for jobs opportunities internationally, which would have been hard to discover and apply for if information was not easily available online. It will be interesting to see as the technological revolution further develops whether or not Norwegian teachers will meet increased competition from other culturally compatible countries. However, based on our study and the fact that teacher salaries are lower in Norway than in any other Scandinavian countries, I believe the opposite will be more likely, and that Norwegian teachers will fluctuate to other countries with higher salaries.

Innovation

In our thesis we found that teachers tend to stick to their preferred working methods, even though new and innovative methods of teaching are recommended by school management. At some schools, using new and innovative technology was a part of the local objectives, and the principals encouraged the teachers to change the way they were working. In the analysis of our findings we found that bonuses could be implemented based on the amount teachers use new and innovative teaching methods. This could help direct their efforts towards these, which could be considered to be one of the main management control benefits of implementing the bonus-scheme. The bonuses system could fill the need school management have for a management tool to help directing efforts towards school objectives. Making the teachers more concerned with innovation could perhaps also be done by engaging them in innovation courses and participating in educational lectures on innovative practices like Google sprint or A3.

As mentioned in the above section on internationalization, utilizing big data could further help school management with measuring their employees, and rewards their efforts based on reliable measurement. Big Data analysis could be considered as a potential technological advance Norwegian Schools could implement to fill the demand for a management tool which successfully measure teacher performance.

During my educational and the courses I have participated in on management procedures, organizational psychology and control systems I have found innovation to be paramount aspect of firms' ability to reinvent their working methods and thrive as the modern world become more technologically advanced. However, I miss a more specific courses on different types of technology and their availability, and courses in how firms could benefit from these. There is an expressed demand for employees with knowledge on technology and inventions which Norwegian universities could contribute with filling.

The subject of analysis in our research paper could be considered to be an innovative advancement if implemented in the educational sector. As empirical studies have shown, the use of bonuses as a part of the incentive systems is not widely used in the sector, and implementing this could be considered to be an innovative way to approach the demand for additional remuneration and rewards for additional efforts, which is expressed by school employees'.

Responsibility

One ethical challenge we encountered during our research project was the potential harm the wrongful implementation of bonuses systems based on teacher performance could have on the prosperity of their students. By implementing bonuses based on e.g. student results and exam grades, teachers could become obsessed with students achieving higher results, which could ultimately have a negative effect on student motivation, and their attitude towards the educational sector. Because of these potential harmful effects, one must be careful when incentivizing teachers. Rewards should be of such value that employees become further motivated, but however not too focused on achieving these, when this does not gain the organization on the long term. If bonuses are too high, empirical studies have shown that teachers could be tempted to game with result, which could be considered to be unethical.

Managers are ultimately responsible for the prosperity of their students, and that the teachers do not engage in harmful behavioral displacement. Management controls could have harmful effects on employees, which makes the risks high when altering these towards the more extreme high. Bonuses could be considered as a more “extreme” type of salary, because of the consequence these could have on Employee behavior. Not receiving bonuses could have an effect on the employees’ self-worth and perceived value for the organization, which could be one explanation why bonuses have shown to increase employee turnover in empirical research studies conducted abroad. Mobilizing bonuses as a reliable part of management control systems, with responsible bonus amounts and criteria for distribution could however equip organizations with competitive advantages when competing for the most valuable assets on the employment market, meaning the most valuable human capital.

Actions who could be taken in order for managers not to engage in harmful distribution of bonuses could be to restrict them with the amount they have available for distribution. In the context of the Norwegian educational sector this would be the responsibility of the local government, who would determine the potential bonus amount in their budgets. By equipping manages with a suitable bonus pool to distribute to their well performing teachers, and perhaps some criteria for distribution, harmful unethical behavior by managers could be mitigated.

Håkon Bakkejord 02.06.2019, Kristiansand