Management Control Systems and Job Stressors

-Identifying the mechanisms by which budget and KPI controls influence job stressors

UPPSALA UNIVERSITY
Department of Business Studies
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Authors: Eric Fridlund & Lars-Erik Vilhelmssson
Supervisor: Dr Lars Frimanson
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Eric Fridlund

Lars-Erik Vilhelmsson

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Abstract

This exploratory study explores how management control systems influence job stressors. More specifically, this study seeks to unravel the mechanisms by which budget and KPI controls influence job stressors. In our study we use the well-established Job Demand - Job Control - Job Support Model to compare previous research on job stressors with our case study. We interview Controllers and Managers at a manufacturing company within the industrial industry. Data was collected through semi-structured interviews and analysed through thematic content analysis. Our study discovers various combinations of how budget and KPI controls influence job stressors. We unravel four mechanisms by which budget and KPI controls influence job stressors. The identified mechanisms are Involvement, Comparability, Predictability, and Rationalization, in where involvement is shown to be most prominent.

Keywords: Management control systems, budget, KPI, job stressors, Job Demand, Job Control, Job Support, mechanisms.
1. Introduction

Work-related stress can cause serious consequences for both employees and organizations. At an organizational level it is acknowledged that too much stress can cause serious negative effects and generate high costs (Cooper & Cartwright, 1994; Varca, 1999; Ornelas & Kleiner, 2003), due to productivity losses (Dwyer & Ganster, 1991; Cancelliere, Cassidy, Ammendolia & Côte, 2011); absenteeism (Cooper & Payne, 1988; Goldman & Drake, 2006; Holden, Scuffham, Hilton, Ware, Vecchio & Whiteford, 2011); personnel turnover (Dwyer & Ganster, 1991; Grawich, Trares & Kohler 2007); and health care expenses (Cooper & Cartwright, 1994; Grawitch et al. 2007). On an individual level significant amount of stress is harmful (Karasek, Baker, Marxer, Ahlblom & Theorell, 1981; Karasek & Theorell, 1990; Anderzén & Arnetz, 2005), and leads to low performance and accident proneness (Schuler, 1980; Weick, 1983).

Previous studies focus on what factors influence work-related stress. Ongori & Agolla (2008) discover that occupational stress mainly is caused by conflicts, increasing workloads, poor organizational communications, and uncertainty about the future. Three of the most empirically recognized factors influencing work-related stress are employees’ ability to control its job duties; and employees ability to receive support from managers and peers (Häußer, et al. 2010; Johnson & Hall 1988; Karasek, 1979; Van der Doef & Maes, 1999). These three factors influence and drive stress reactions and are referred to as stressors (Karasek, 1979, Johnson & Hall 1988). However, fewer studies explore how organizational factors, such as management control systems (MCS), influence job stressors (Härenstam, 2008).

MCS consists of the devices supervisors use to ensure that behaviours and decisions of employees are coherent with organizations strategies and objectives (Malmi & Brown, 2008; Flamholtz, 1983). Thereby, MCS is seen as a system that helps protect organization against the risk of having employees doing something that organizations does not want them to do (Abernathy & Chua, 1996; Merchant & Van der Stede, 2007). Some of the most common MCS’s are budgeting and various types of performance measurement systems, such as Key Performance Indicators (KPI) (Shields, 1997). Combining MCS and stress research is interesting because the objective with MCS is to help organizations control employees
(Malmi & Brown, 2008), while lack of control over work duties is known to influence stress for employees (Karasek, 1979; Johnson & Hall, 1988).

Organizations comprehensive usage of MCS and the negative impact of stress on organizations and employees make it interesting to study the relationship between MCS and work-related stress. Therefore, our main objective with this paper is to explore how MCS influence job stressors. Specifically, our research seeks to unravel the mechanisms by which budget and KPI controls influence job stressors.

In order to achieve our objective we present a literature review in where we examine previous studies on how budget and KPI controls influence the three job stressors, Job Demand, Job Control, and Job Support. Budget and KPI controls are chosen because our case company mainly use these MCS for controlling employee behaviour. In addition, since budget and KPI controls are well established MCS within companies it is interesting to explore how they indeed influence job stressors. A previous study on how MCS influence job stressors explores the relation within a sales organization (Eriksson & Fernholm, 2011). We therefore chose to conduct our study at a manufacturing company within the industrial industry. Our exploratory case study includes twelve interviews with controllers and manager working in project form. We explore two different job positions, one whose responsibility is to steer the business by operating the financial side of the projects, while the other manages the operational sides of the business by handling customer relationships.

The remainder of the paper is structured as follows. The next section reviews previous research literature regarding job stressors and MCS. The section ends with a table summarizing previous literature on how MCS influence job stressors. The section is followed by our research design and method where we present our case company. In the next section we present findings from our exploratory case study. The subsequent section discusses our empirical findings in relation to our theoretical framework. The section ends by presenting the limitations of our study. Our final section presents our conclusions and provides suggestions for future research.
2. Literature Review

2.1 Job Stressors

One of the most well-established models of job stressors is Karasek’s (1979) *Job Demand and Job Control (JDC) model* (Van der Doef & Maes, 1999; Häusser, Mojzisch, Niesel & Schulz-Hardt, 2010), which later was updated to fit another dimension - *Job Support* - thus creating the Job Demand, Job Control and Job Support Model (JDCS model) (Johnson & Hall, 1988). The JDCS model predicts that job stress is caused by three factors; Job Demand, Job Control and Job Support. Job Demand refers to the amount and level of work employees job duties requires, and how much time they have available for each task. Job Control denotes the level of control and freedom over how employees job duties should be carried out. Job Support signifies what possibilities employees have for receiving support and feedback from managers and peers, thus placing the employee in social environment (Karasek, 1979; Johnson & Hall, 1988).

Consequently, Karasek (1979) suggests that employees might prosper when productivity goals are set higher under circumstances of a requisite level of control. Therefore, Job Demands per se are not harmful, but when combined with low levels of control the situation can be unsatisfactorily for the employee (Karasek, 1979). In other words, if employees are able to increase control over parts of their job duties, such as augmented decision-making authority or enhanced autonomy, they may exert more influence over areas in their work environment that provokes stress (Dwyer & Ganster, 1991). Job Support is said to act as a buffer, which can reduce the effects of high Job Demands or low Job Control, thus protecting the employee from job strain (Johnson & Hall, 1988). The relationship between these variables represents employees’ situation towards the work environment. The model states that if an employee experience high Job Demand and high levels of Job Control new strategies will be developed (Karasek, 1979).

The modified model implies that employee’s possibility of gaining support not only from managers and co-workers but also from for instance budgets (Eriksson & Fernholm, 2011) indeed can influence stressors (Van der doef & Maes, 1999). Van der doef & Maes (1999) gathered data from 20 years and found support for both models. However, support for the JDCS model is mainly found in cross-sectional studies. Thus, these findings propose that
employees with high Job Demand, low Job Control and low Job Support is likely to experience low well-being at work. Moreover, the model implies that employee well-being can be improved without any repercussions for the level of Job Demand by enhancing employee control and social support (Van der Doef & Maes, 1999).

The importance of having Job Control and Job Support is highlighted in many studies. For instance, Dwyer & Ganster (1991) examines the impact of stressful job demands on employees’ attitude and attendance at work. The authors result shows that employees with both high levels of perceived workload and control has fewer sick days and receives higher satisfaction from work than those who do not. In addition, Dunn, Arnetz, Christensen & Home (2007) uncovers that an intervention program for physicians is successful because it is built upon increasing employee control. Furthermore, Cancelliere et al. (2011) discovers that a Workplace Health Promotion program conducted to increase employee productivity can be successful if the programs are individually tailored and supportive in its workplace culture. Thus, increased control and support makes employees more satisfied and organizations more productive.

Some authors highlight concerns regarding the JCDS model. For instance, the model has received criticism because it supposedly lacks ties to experimental studies (Häusser et al, 2010). Most of the previous studies have been established upon subjective comprehension regarding how employees experience their objective factors (van der Doef & Maes, 1999). Further, subjectivity can also be noticeable in different types of working contexts. For instance, an employee in a particular industry might not regard “high job demands” as high as another employee within a completely different type of industry (Karasek & Theorell, 1990). Other issues with the JDCS model are that it can be hard to establish the difference between the two stressors Job Demand and Job Control. In some settings an organizational factor can influence both of these stressors at the same time (Karasek & Theorell, 1990). However, although the criticism, the JDCS model is considered as a well-established model within its field (Häusser et al. 2010).
2.2 Management Control Systems

Historically, there has been plenty of research defining MCS (Fischer, 1998). Definitions of MCS are formulated as processes of how managers ensure that resources are obtained and used efficiently and effectively in achievement of organizational targets (Anthony, 1965; Mundy, 2010; Malmi & Brown, 2008). Thus, MCS are designed to influence the probability that people will behave in ways that leads to attainment of organizational objectives (Flamholtz, 1983). Simons (1990) elaborates regarding MCS and describes it as being the formalized procedures and systems that with the usages of information upholds or modifies organizational activity. One way to increase the likelihood of reaching organizational targets is to structure specialists in groups and enables them to communicate. Organizations can thus reduce performance differences (Flamholtz, 1983).

MCS is an important element because it helps companies control its resources, which implicitly includes their employees and how they conduct their work. The many varying definitions further highlight the complexity of MCS and the difficulty in separating multiple systems within a company. Malmi & Brown (2008) argues that the power of MCS does not come from individual activities but from the joint effects of the different variables. Studies show that MCS can work as a package whereby organizations rely on combinations of control mechanisms (Malmi & Brown, 2008; Otley, 1980). Some of the different variables can for instance be; budget; return on investment; economic value-added; reward and compensation; administrative controls; and cultural controls (Malmi & Brown, 2008).

2.2.1. Budget Controls

Budget controls are one of the most common MCS, and are widely acknowledged with a nearly universal usage (Argyris, 1952; Bunce, Fraser & Woodcock, 1995; Jensen, 2003; Hansen, Otley, van der Stede, 2003). Budget controls refer to the process of how organizations can bring together goals, plans, and responsibilities, whilst achieving financial consistency (Bunce et al, 1995). In other words, budget controls play an important role in organizations for planning, allocating resources, coordinating activities (Covaleski, Evans, Luft & Shields, 2003), and interconnecting departments. However, there has been a lot of criticism towards budget controls (Hansen et al. 2003; Jensen, 2003; Hope & Fraser, 2003; Libby & Lindsey, 2003; Wallander, 1999; Ittner, 1998). For instance, studies shows that budget controls are considered as very time consuming (Bunce et al, 1995; Hansen et al.
2003; Jensen, 2003), and that budget controls focus on cost reduction rather than value creation (Bunce et al, 1995; Hansen et al. 2003). Budget controls helps to identify problems in operations but does not explain the underlying reasons for the problems. Thus, budget controls are not effective as goals and should rather be seen as a map toward goals (Argyris, 1952).

### 2.2.2. KPI Controls

Key Performance Indicators (KPI) are also commonly used MCS. KPI controls are metric measures used to quantitatively estimate performance regarding needs and expectations of stakeholders, and accomplishment of the organizational goals towards companies’ critical success factors (Sanchez & Robert, 2010; Sinclair & Zairi, 1995). KPI controls are used to provide indications on, for instance why an employee has or has not been able to uphold its goals (Malmi & Brown, 2008). The indicators can be measured in numerous ways, for example as; return on investment; weekly sales; or units produced per hour. KPI controls can vary depending on industrial sector and are closely connected to the strategy of the organization (Samsonova, Buxman & Geteis, 2009). Criticism towards KPI controls is acknowledged since the outcome of the measurement is dependent on what is being measured. Hence, if the measurement itself is invalid, it can lead to wrong actions being implemented. Some companies implement non-financial performance measures because they believe that traditional accounting measures for instance are too focused on historical figures (Ittner, 1998).

### 2.3. MCS influence on Job Stressors

Previous research shows that employee stress can be influenced by how organizations set their budget targets (Kenis, 1979; Hirst, 1983; Weick, 1983). Setting budget targets that are perceived as too high by employees can imply high demands on the job to be done, and thereby increase the experienced level of stress for employees. However, because employees are more likely to reach their targets if they are set challenging, but perceived as reachable, the risk for stress could also decrease (Kenis, 1979). Further, if targets are set too low it is not uncommon that employees raise their targets themselves in order to make them more challenging. When employees are told to do their best a common outcome is that no new solutions are developed because employees fall back on pre-learned skills. One could say that
budget targets, just as any other goal, puts demands on employees to leave their comfort zone and thus new strategies will evolve (Locke & Latham, 2002).

Weick (1983) argues that controllability enables human beings to minimize danger to themselves, and that individuals own response often are the most predictable assurance than others in an unreliable world. However, if stability can come from other sources than from one's own responses people most likely will embrace them. Budget controls can provide this type of stability according to Weick (1983). It is known that even an anticipation of change in job environments can lead to higher levels of work stress for employees even if the change itself never occurs (Greubel & Kecklund, 2010). However, because budget controls can provide a level of predictability and control for employees, it helps lower perceived stress (Weick, 1983).

If employees’ performance targets are unclear the risk of stress can increase because it is unknown for employees what he or she is supposed to achieve. Accordingly, this can lead to lower levels of perceived control for employees (Weick, 1983; Hirst, 1983). Further, it is also shown that budgets tend to strengthen the vertical command and control within organizations (Hansen et al. 2003), which likely leads to a decrease in the perceived control for employees on lower hierarchical levels.

However, budget controls can also be used for dialogue and learning (Burchell, Clubb, Hopwood & Hughes, 1980). Involving employees in how to conduct budgetary processes is beneficial because sharing information reduces gaps in knowledge (Haas & Kleingeld, 1999; Shields & Shields, 1998), and helps keep a close bond between managers and employees (Bisbe, Batista-Foguet & Chenhall, 2006). For instance, having regular face-to-face meetings between managers’ and employees leads to better problem solving rather than a dispersion of blame (Roberts, 1990). Thus, not only does regular discussion and participation in budgetary processes have positive effects on overall performance of employees (Brownell, 1985). It also leads to lower levels of perceived stress for employees because their level of support and control is enhanced. Further, it is also shown that both experienced and inexperienced employees perceives being involved in setting budget targets lowers their Job Demands (Eriksson and Fernholm, 2011).
In addition, research also shows a positive relation between budgetary participation and managerial performance (Dunk, 1993). Likewise, it is established that budget participation can increase upward communication of information (Parker & Kyj, 2006), and that information sharing can increase individual performance since it helps to ensure that employees receive adequate budgetary support (Nouri & Parker, 1998). Consequently, budget controls can be perceived as supportive for employees. Furthermore, in situations where budget targets are not perceived as self-evident employees will need to receive continuous information and feedback regarding the overall budget progress in order to reach targets (Argyris, 1952; Locke & Latham, 2002). Hence, in such situations budget controls will not be able to provide enough support in order for the employee to reach budgetary targets.

A properly designed set of KPI controls can be used to communicate goals and strategies of organizations and tone employees’ goals with organizational goals (Tung, Baird & Schoch, 2011). Research further shows that KPI controls can make employees experience higher levels of Job Demands because they tend to increase overall workload (Eriksson & Fernholm, 2011). According to Weick (1983) a strategy to reduce the increased workload might be to rationalize the amount of work by simplifying a complicated task. Nevertheless, KPI controls can increase employee performance due to increased communication, improved usage of knowledge, and increased appreciation of job tasks (Tung et al. 2011). KPI controls can also provide suitable information to support managers to track their own performance and evaluate employees’ performance in an effective manner (Tung et al. 2011). Hereby, it is established that KPI controls can increase Job Support.
A previous study investigates how budget, KPI and incentives influence the previously mentioned job stressors (Eriksson & Fernholm, 2010). Weick (1983) on the other hand explores connections between accounting systems and perceived reactions of employees during changes in the environment. More specifically, Weick (1983) reasons why responses happen, responses in form of stress and causes derived from accounting systems. From Weick’s reasoning, and Eriksson & Fernholm’s study one could argue that it exists different kinds of underlying factors, or mechanisms between MCS and job stressors. Hence, from this background our research seeks to unravel the mechanisms by which the MCS’s budget and KPI controls influence job stressors.
3. Research design and method

In order to fulfil our objectives with this paper a case study design was preferable since it gave us the possibility to in-detail explore a company’s MCS and how it is used (Yin, 2008). A case study is appropriate in areas where theory is not well developed (Scapens, 1990). Since our paper seeks to unravel the mechanisms by which budget and KPI controls influence job stressors an exploratory case study was chosen.

3.1. Case company and interviewees

We conducted our study at a profit driven manufacturing company. The company origins from a country within the western hemisphere and employs approximately 60 000 individuals in 20 countries globally. The Swedish subsidiary is located within the Mälardalen region. Our initial contact with the company was via e-mail when we sent an information sheet to the head of Human Relations explaining who we were, what we were studying, and what the objectives with our study was. In the letter, and in order to enhance credibility to our study we also motivated why this particular company was of interest for our study. An anonymized version of our Company Information Sheet can be found in the Appendix. After being allowed access, and before we conducted the interviews we had a meeting with the Chief Financial Officer of the Swedish subsidiary. This interview was mainly done in order to get a proper understanding regarding how the company was structured.

Twelve interviews with controllers and managers who worked in project form were conducted. Our respondents were chosen on the CFO’s recommendation. The CFO acknowledged that these specific employees would be suitable for our study since their job duties were noticeably directed by budget and KPI controls. It should be noted that the CFO might have had different reasons for why he recommended these individuals rather than that they simply were appropriate for our study. However, at no time during our study did we encounter any suggestion that so was the case.

We identified a few different budget variations within the company. The identified budget types were: yearly budget, project budget (long-term), and forecast (short-term budget). The yearly budget was by far the most common in guiding employee behaviour according to the CFO during our pre-meeting. Although our aim was not to investigate the budget variations in
depth, we will where possible clarify which type of budget the respondent refers to unless it is a general answer regarding the yearly budget. The yearly budget was initially based on the total sum of each specific project, then moved back in time\(^1\) and split over years and months.

The yearly budget process began in the autumn and was put into use in the upcoming year. However, the yearly budget was not created in isolation since it was based on figures from the project budget, as well as from fluctuations in the global economy. The yearly budget also specified the margin in which the projects eventually were supposed to provide in profits. It was each manager’s duty to ensure that each project earned its planned margin. This margin was fictitiously drawn from each project on a regular basis, regardless of the projects profitability. If a manager experienced that something made the budget unreasonable, a request to lower the project’s margin was sent to upper management. This type of request travelled far up in the hierarchy and demanded that all other options were thought of before it eventually got approved. The forecast was created quarterly and helped predict the yearly budget outcome and its margin and profitability. The creation process for the yearly budget and the forecasts were similar. Thus, it was evident from the respondents that all these three budgets variations were tied together and influenced each other. Since all variations of budgets were closely connected we argued that separating the effects between them in general would be difficult. We have for this reason named them budget controls.

The company labelled their KPI controls into two categories: operational (e.g. non-financial) and financial. Even an operational KPI that could be measured in minutes, hours or days was recalculated into a sum and presented as a financial figure. If a KPI metric was labelled operational, such as service time, the KPI were still recalculated into costs, which could be seen as an example of the company’s financial focus. However, neither during our pre-meeting with the CFO, nor during our interviews did the respondents separate the two types of KPIs. Their answers focused on describing how KPI generally affected their perceived job stressors. Thus, we argued that in reality the firm used KPI controls that were driven to achieve a financial outcome. We therefore chose to refer the two concepts mainly as KPI controls.

\(^1\) Known as Net Present Value
A consequence of referring these two MCS’s generally as budget and KPI controls could be that the analytical depth of these specific MCS’s was rather limited. However, our study’s main objective was to unravel the mechanisms by which they influenced job stressors. Since this study’s main contribution was to identify the mechanisms rather than exploring the analytical depth of the two MCS’s, we consider that this only had minor implications for our results.

All of the respondents functioned in a decentralized environment. Exploring how MCS influence stressors in such setting is interesting since Härenstam (2008) argues that employees in decentralized environments are exposed to pressure from multiple sources with low possibility to balance several demands or schedule work. We interviewed two different job positions: project controllers and project managers, which throughout the paper are referred to as controllers and managers. The controller’s responsibility was to steer the business establishing prognosis, forecasts and other financial data derived from each projects. The manager’s job duties covered the operational business and was customer oriented. The relation between the two positions could further be described as the manager being a specific project’s CEO, while the controller was considered its CFO. All of the respondents were engaged in multiple projects. Furthermore, within each project other professionals such as industry engineers occurred. However, these professionals were not as rigidly influenced by the company’s MCS as controllers and managers, and were thus excluded from our study.

Since a previous study on how MCS influence job stressors only explored a single type of job position (Eriksson & Fernholm, 2011) it was interesting for us to explore two different types of job positions. It is further interesting to explore two different job positions because if the purpose with MCS is to help organizations control their employees and their behaviour (Malmi & Brown, 2008), one could argue that their MCS should have similar effects on all employees despite job positions.

Our initial plan was to explore three different MCS: budget, KPI, and incentives. However, during our initial contact with the company we acknowledged that incentives were not apparent for employees and was thus not considered as an important MCS in our particular case company. After further questions in this matter we learned that if managers did not fulfil contractual agreements with customers, the company would suffer steep financial
repercussions, as specified in most contracts. To avoid these repercussions it was important for managers to maintain within the limitations specified by budget and KPI controls.

Noteworthy is that at the time for our interviews the company had witnessed turbulent times with significant personnel turnover. This was especially evident regarding managers and upper management. Therefore, some of our respondents were rather newly appointed. However, since these respondents were familiar with the industry as a whole, it seemingly did not have an impact on their responses. Because the findings in our exploratory case study were based on interviews within one single company no generalization to wider populations can be established (Scapens, 1990).

3.2. Data collection and interview operationalization

The objective with our study was to explore how budget and KPI controls influence the job stressors Job Demand, Job Control, and Job Support. In order to fulfil our research objectives our interview questions was created in relation to the JDCS model. Using the JDCS model adds validity to our study since it has been used in previous research, and has proper empirical support (Häusser et al. 2010; Van der Doef & Maes, 1999). Another strength with the JDCS model is that it is scientifically clear and easy for the users to understand (Härenstam, 2008).

By using the JDCS model we sought to explore how a specific MCS influenced a particular job stressor. In order to explore how the two MCS we chose to study influenced the three job stressors we came up with questions that related how the company’s budget and KPI controls influenced the three job stressors, Job Demand, Job Control, and Job Support for each respondent. Thus, our interview questions were based on Karasek’s (1979) and Johnson & Hall’s (1988) model. By asking questions that related MCS with job stressors we received adequate knowledge about both budget and KPI controls influence on each specific job stressor. To get an overall view of how the respondents perceived the job stressors we also asked them to describe how they experienced their Job Demands, Job Control, and Job Support respectively. With this background, and in order to find out how the respondents perceived that budget controls influenced job stressors, we further developed Eriksson & Fernholm’s (2011) interview questions.
Thus, we ask questions such as: How do you experience that budget controls influence your Job Demands? This type of questions gave us appropriate information about how the company’s budget control influenced the employees Job Demands. Corresponding questions for how budget controls influenced both Job Control and Job Support was then also asked in order to gain information about how the budget controls influenced these job stressors as well. To find out how KPI controls influenced the employees job stressors we asked questions such as: How do you experience that KPI controls influence your Job Demands? Like previously, corresponding questions for how KPI controls influenced Job Control and Job Support were then also asked.

To ensure the operationalization of our interview question we conducted a pilot study. The pilot study was conducted with a business controller at a manufacturing company. The company and job position for the pilot study was chosen because it was of same types as the ones we explored in our case study. A pilot study was conducted because they help define and test one or more aspects of a final study, such as data collection instruments (Yin, 2011). Thus, the pilot study was done to ensure that our interview questions were understandable and that we could get useful answers from our respondents. During the pilot study it became evident that the respondent had minor difficulties in understanding the definitions of the various job stressors. Due to this, we realized it was crucial for us to thoroughly explain the three job stressors and its definitions before we started to ask any questions. After we had changed the structure of our interviews by including a better explanation of the three job stressors, the pilot study respondent had no troubles understanding neither the questions nor the definitions of the job stressors. Thus, our interview operationalization was considered appropriate and no more pilot studies were necessary. A complete list of interview questions can be found in the Appendix.

The number of interviews was not decided upon before our data collection had begun. However, after the third manager interview and fifth controller interview we started to see obvious trends within the respondents’ answers. After a total of twelve interviews it became apparent that the data collection had saturated since the respondents’ answers became similar (Yin, 2008). Since the managers spend a significant amount of time in the field, three of them were interviewed via telephone on their request. Interviewing via telephone could be seen as a
problem since we were unable to visualize respondents’ expression and body language. However, we did not perceive any limitations in their answers or that the data collection from the telephone interviews anyhow differed from the ones done in person.

Because of the complex nature of the MCS in our case company we conducted semi-structured interviews. By using semi-structured interviews we were able to ask follow-up questions when it was considered necessary to further elaborate respondents answers. Semi-structured interview was further beneficial if respondents had difficulties in understanding our original questions (Saunders, 2009). Semi-structured interviews also gave respondents greater opportunities to describe and explain their specific work environment. Thus, our chosen interview structure provided us with a more accurate picture about how respondents experienced the various MCS’s and its influence on them than if we would have used structured interviews (Saunders, 2009). Another positive aspect of having semi-structured interviews was that it sometimes led the discussions into areas in which we previously not had considered but that was proven to be important for our overall understanding of the company and the situation at hand (Saunders, 2009). Semi-structured interviews allowed us to prepare questions in advance, which we could chose to omit during the interview if we experienced that it already had been covered by the respondents (Saunders, 2009). On the other hand, due to the structure we also needed to ask additional and follow-up questions in order to explore our research objectives fully.

Before the interviews each respondent acquired a copy of the Company Information Sheet. This gave the respondents a valid introduction to what our objectives with the interviews were. To further strengthen the validity of our data collection a second type of triangulation was made in where we also conducted in-depth research regarding the company. This was done from sources such as their annual reports, various press releases, and the Internet. The steps described above were important because it provided us with a proper overall picture of the company’s business and increased understanding regarding how the company’s various MCS was designed and used.

We conducted the interviews in private meeting rooms within the targeted department. Every interview started with us introducing ourselves and explaining the objectives with our study. We then made sure that each respondent fully understood both what we meant when we
referred to budget and KPI controls and how these affect their work. We also provided the respondents with clear definitions of the three job stressors; Job Demand, Job Control, and Job Support. These precautions were made to ensure that respondents was fully aware of the purpose and content of the study as well as providing them with background information regarding the upcoming interview. In addition, we ensured that respondents understood that they did not need to answer any question they considered inappropriate. We also informed each respondent about how we would use the data we collected from these interviews. During the interviews one of us led the session and asked the questions while the other took extended notes and asked follow-up questions when we considered it to be necessary for interviewees to further elaborate and explain their reasoning.

All interviews were recorded digitally and transcribed directly after each interview. Recording the interviews was preferable since it enabled us to increase the precision of our case study (Yin, 2011). The interviews lasted between 20 to 50 minutes. When completed, all interviews were transcribed verbatim. The entire data collection resulted in approximately 50 pages of single spaced text and amounted of over more than five hours of digitally recorded interviews. We conducted eleven of the interviews in Swedish because it was the respondent's native language. Conducting the interviews in the respondent's native language was done since we considered it to be important that they were able to express themselves as distinguishable and clear as possible in order to increase the validity of their response. After these interviews were done we interpreted them into English.

One interview was held in English (Controller 3) because this respondent was from a foreign country and was therefore more comfortable speaking English than Swedish. Interpreting the results from Swedish to English could have been seen as a problem since information could have gotten lost in the translation process. However, since we recorded all of our interviews we avoided any chances of incomplete interpretations (Yin, 2011). Furthermore, the interviews were made confidential to enable respondents to answer questions honestly and without having to worry about revealing information which could come back to afflict them or the company in the future. Although it eventually was not necessary, we had the opportunity to contact the respondents after the interviews had been conducted if we needed to clarify responses or ask any additional follow-up questions.
### 3.3. Data analysis

After our data collection we compared our findings with previous research in terms of MCS and its impact on job stressors, as presented in Table 1, in order to explore similarities or differences. To find new approaches and perspectives for the JDCS model we observed different sources of literature. We used medical journals, human behaviour journals, management journals, and psychology journals and then snowballed our progress from there. We thus used a wide spectrum of academic articles, in regards to both age and genre.

Our data collection was analysed through thematic content analysis. Thematic content analysis involves coding verbal material for content with the purpose of making implications about the characteristics or experiences of individuals (Smith, 1992). Thematic content analysis can be considered as labour-intensive and time consuming (Smith, 1992). However, we argue that it is necessary to use a thematic content analysis since it enables us to discover recurring themes in our data collection, which is important in our attempt to unravel the mechanisms by which budget and KPI controls influence job stressors. Thus, after transcribing the interviews we read through our data collection and summarized the most important parts. We then compared our summaries and discussed similarities and differences regarding our findings. This discussion enabled us to ensure that we had understood the full content of each and every answer given by our respondents. During our discussions we found recurring themes as of which the company’s budget and KPI controls influenced job stressors
in the answers given by respondents. When these themes became apparent for us we re-read our transcripts to see if we had missed any other important aspects or themes. The themes, or mechanisms as we referred them to became significant throughout all of our interviews. Therefore, we chose to organize our exploratory case results around our four identified mechanisms. We labelled our four identified mechanisms as: Involvement, Comparability, Predictability, and Rationalization.

The involvement mechanism was found in situations where the respondent experienced that working with others or the need to work with others affected the job stressors. Comparability was identified as a mechanism that affected job stressors in situations where respondents perceived that they needed to work or behave in manner that enabled comparison between for instance units, reports, or actuals and budget. The predictability mechanism was identified when interviewees described situations where MCS affected job stressors by creating a perception of a known future outcome. The last mechanism, Rationalization became evident in situations when respondents experienced a need to reduce aspects of their assignments, which affected the job stressors. In order to provide as a comprehensive coverage as possible, our findings will thus be presented in terms of our four identified mechanisms. The mechanisms will be presented in the next section, where we also summarize them and their effect on the three job stressors in separate tables. These tables will then be further discussed in our discussion section.

4. Exploratory Case Results

4.1. Involvement

From our interviews it is obvious that some managers have problems understanding what the numbers within the budget actually means and what these numbers are based on. Because of this unawareness of numbers some of the respondents claim they have to analyse each specific budget number per se to discover its true meaning. According to a couple of managers, this augments their overall workload and thus increases their perceived Job Demand (Manager 1 & 2). According to one of the managers, the need to gain information from other individuals within the project in order to understand the budget numbers is what increases the workload (Manager 1). The managers state the importance of being better
involved within next year’s budget process to get an enhanced understanding of the content of the budget and numbers within it (Manager 1 & 2). One of the managers explains:

“What’s important, and what you realize when you’re new on the job is that you need to be better involved in the budget process in order to understand the numbers”

[Quote 1 – Manager 1]

This issue is further elaborated by Manager 2 who even questions the judgement of the predecessors of this year’s budget since this respondent believes that its data is inaccurate. Therefore, the manager argues that personal relations and proper teamwork is imperative regarding the budget process because it is the people and the collaboration between employees that brings actual life to the numbers (Manager 2). In brief, the managers reckon that a good involvement in the yearly budget process leads to that the experienced Job Demand decreased.

The controllers also express the importance of being collaborative within the budget process. In order to make the budget as valid as possible a majority of the controllers argue that it is crucial for them and the managers to be involved in the budget process. Both Controller 1 and 3 further confirms this when saying that the perceived Job Support can increase during the budget process because communication between controllers and manager intensified during this period of time. They argue that the collaboration between managers and controllers regarding the budget helps to increase overall understanding and acceptance of the budget. This is considered important since the budget is something that the company constantly compares actual numbers with throughout an entire year. A controller further demonstrates the importance of this when saying:

“You’ll have to live with your budget for an entire year”.

[Quote 2 - Controller 7]

In addition, both Manager 1 and 4 confirms the importance of striving to make the budget as correct as possible from the beginning. They claim that it is very difficult to get managerial approval for changing the budget margin for your projects when the budget is assembled.

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2 The Swedish quotes can be found in the Appendix.
Controller 3 also mentions that being able to create valid forecasts is dependent on a stable and collaborative team. However, the respondent argues that this implies being dependent on the managers in order to get enough valid input to create proper budget forecasts. This controller thus suggests that the dependency on managers can lower their perceived Job Control. Other controllers also talk about the dependency between managers and controllers during the budget process. These controllers claim that Job Support can increase throughout the budget process. This since during the budget process, monthly closures, and forecasts, thus occasions when a proper form of communication is highly delicate for controllers, managers are also dependent on controllers in order to preserve their budget and current actual numbers (Controller 1 & 2). Controller 1 reasons even further and mentions that if the managers are acting as responsible regarding their own budgets as they should, they would support controllers with necessary information in order to help them conduct their job duties. From this reasoning, it is also apparent that the budget enables the managers and controllers to speak the same language, which according to the respondents’ leads to that experienced Job Support increases (Controller 1 & 2).

Two managers also confirm that budget control helps them gain more Job Support. In this case, Job Support almost exclusively comes from functions within each specific project. The respondents argue that the reason is because everyone on the same vertical level has common goals with the business. However, the two managers also admit that Job Support on the horizontal level, hence between different projects is experienced as noticeably lower (Manager 1 & 3). One of the managers clarifies the situation further and explains that the company has a sub-optimization problem. The respondent explains by saying that if a unit needs a specific resource it can, instead of turning to a certain project within the same company that actually has this explicit resource, turn to an external part in order to acquire the needed resource. This behaviour can occur because such enactment will not appear directly on this specific unit’s budget report. Therefore, this manager claims that budget controls can catalyst lower levels of perceived Job Support, and that the company as a whole loses due to it (Manager 3). The manager explains by stating:
“It creates a tardiness since I have to fight a bit more to get the help I want because I have to maintain my cost ratio. In other words, I can’t afford to bring in the help I really need. Instead, I’ll have to do a quick and dirty solution in order to put out the fire, without truly solving the main problem.”

[Quote 3 - Manager 3]

Furthermore, a controller also provides indications that budget controls can lower the experienced Job Support. The controller says that during times such as budget processes, monthly closures, and forecasts both managers and controllers appears to be preoccupied and it can thus be troublesome to get a hold of the right people in time if you for instance have a question or an issue you need help solving (Controller 6). It is also evident that collaboration is not always constructive. According to Controller 1, conducting KPI reports steals five days a month because the controller is dependent on managers’ signatures in order to finalize the report. The controller states that this cooperation with managers means that the personal schedule has to change in order to fit it with the managers’. Hence, such event lowers the controllers experienced Job Control.

Manager 5 provides an answer that differs from the others. This respondent sees involvement with operational aspect of work as a key issue to fulfil the budget targets. In order for the projects to maintain within the budgetary targets the operational entities have to be extra careful in separating costs between projects. For manager 5 this means a frequent communication with the operational functions, which in turn leads to higher perceived Job Demand.

The results presented above are summarized in Table 3 below. In this table one can see which and how a MCS affects a Job Stressor. For instance, if the perceived Job Stressor increases a plus sign is shown under the heading Effect. Under reason stated one can see why a Job Stressor was affected through a summary of the results. Under Interviewee it is shown which respondents the results were based on.
Table 3 - Observations of the Involvement mechanism

<table>
<thead>
<tr>
<th>MCS</th>
<th>Stressor</th>
<th>Effect</th>
<th>Reason stated</th>
<th>Interviewee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget</td>
<td>Job Demand</td>
<td>+</td>
<td>Unawareness of numbers</td>
<td>Manager 1&amp;2</td>
</tr>
<tr>
<td>Budget</td>
<td>Job Demand</td>
<td>−</td>
<td>Teamwork brings life to numbers</td>
<td>Manager 2</td>
</tr>
<tr>
<td>Budget</td>
<td>Job Support</td>
<td>+</td>
<td>Increase communication</td>
<td>Controller 1&amp;3</td>
</tr>
<tr>
<td>Budget</td>
<td>Job Control</td>
<td>−</td>
<td>Dependency on managers</td>
<td>Controller 3</td>
</tr>
<tr>
<td>Budget</td>
<td>Job Support</td>
<td>+</td>
<td>Speak the same language</td>
<td>Controller 1&amp;2</td>
</tr>
<tr>
<td>Budget</td>
<td>Job Support</td>
<td>+</td>
<td>Common goals</td>
<td>Manager 1&amp;3</td>
</tr>
<tr>
<td>Budget</td>
<td>Job Support</td>
<td>−</td>
<td>Horizontal sub-optimization</td>
<td>Manager 3</td>
</tr>
<tr>
<td>Budget</td>
<td>Job Support</td>
<td>−</td>
<td>Preoccupied</td>
<td>Controller 6</td>
</tr>
<tr>
<td>KPI</td>
<td>Job Control</td>
<td>−</td>
<td>Dependency on managers</td>
<td>Controller 1</td>
</tr>
<tr>
<td>Budget</td>
<td>Job Demand</td>
<td>+</td>
<td>Frequent communication</td>
<td>Manager 5</td>
</tr>
</tbody>
</table>

4.2. Comparability

All but one of the controllers hints that budget controls can increase the experienced Job Demand. Some of the controllers argue that this mainly is because budget controls leads them to compile an immense amount of reports, monthly closures, follow-ups, and future forecasting, which is said to increase the overall workload (Controller 1 & 2). A controller also mentions that an increase in Job Demand occurs because budget targets are set unrealistically high. According to the respondent these utopic numbers makes budget controls less capable of being used as a proper comparison tool for future prognosticating. The controller claims therefore that budget controls cannot be used as foundation for any valid forecasting (Controller 2). The necessity to use the budget for future judgement is emphasized by one of the managers:

“It is towards the budget we are measured, and we compare with the budget all the time”

[Quote 4 - Manager 1]

Although the apparent call for equivalence within the budget, the company has established a methodological support for how budget controls should be used within the business. (Manager 2 & 5). However, this methodological support is unfortunately not widely followed throughout the company according to the same respondents. These managers declare that this methodological support would enable a bigger part of the company to speak the same language if used more thoroughly. According to them, this would imply that budget controls could increase the level of Job Support within the company (Manager 2 & 5). Controller 4
argues that also KPI controls have the ability to create measurement consistency and thus increase Job Support. However, it is evident that the various types of KPI controls used in the company have changed throughout the last couple of years due to change in management (Controller 6). Controller 4 claims that when the methodological support eventually is fully indoctrinated it will become easier to compare for instance numbers from the budget with actual current numbers. This would according to the controller increase the level of experienced Job Support.

A couple of managers further admit that in a best case scenario KPI controls works properly. This since KPI controls guides managers and helps them perform and deliver what they actually are responsible for. Under such circumstances the managers argue that KPI controls enables an appropriate tool for comparing how different projects are doing. Thus, the managers argue that KPI controls help increase the level of perceived Job Support. However, at the same time these managers claim that the company has too many measurable KPI metrics and that some of them unfortunately are rather misleading. The managers say that this unawareness of the numbers leads to a higher workload since they have to understand what the numbers refers to. Hence, the respondents experience that their level of Job Demand increases (Manager 2 & 5). Controller 7 mentions that KPI controls also are used as tools for measuring actual current numbers against the planned outcome. This leads to that perceived Job Demand increases because the controller uses these tools to evaluate personal performance, which is depending on results from KPI controls, which thus leads to a higher workload for the controller.

Like previously, the results from the mechanism presented above are summarized in Table 4.

Table 4 - Observations of the Comparability mechanism

<table>
<thead>
<tr>
<th>MCS</th>
<th>Stressor</th>
<th>Effect</th>
<th>Reason stated</th>
<th>Interviewee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget</td>
<td>Job Demand</td>
<td>+</td>
<td>Immense reporting</td>
<td>Controller 1&amp;2</td>
</tr>
<tr>
<td>Budget</td>
<td>Job Demand</td>
<td>+</td>
<td>Unrealistic targets</td>
<td>Controller 2</td>
</tr>
<tr>
<td>Budget</td>
<td>Job Support</td>
<td>+</td>
<td>Speak the same language</td>
<td>Manager 2&amp;5</td>
</tr>
<tr>
<td>KPI</td>
<td>Job Support</td>
<td>+</td>
<td>Measurement consistency</td>
<td>Controller 4</td>
</tr>
<tr>
<td>KPI</td>
<td>Job Support</td>
<td>+</td>
<td>Guides performance</td>
<td>Manager 2&amp;5</td>
</tr>
<tr>
<td>KPI</td>
<td>Job Demand</td>
<td>+</td>
<td>Unawareness of numbers</td>
<td>Manager 2 &amp;5</td>
</tr>
<tr>
<td>KPI</td>
<td>Job Demand</td>
<td>+</td>
<td>Evaluating performance</td>
<td>Controller 7</td>
</tr>
</tbody>
</table>
4.3. Predictability

Controller 3 claims that budget controls are considered as critical planning tools for forecasting short-term outcomes. Depending on the situation, this can lead to higher Job Demands since the accuracy of the forecasts needs to be approximately 95%. The majority of controllers say the company on the short-term is run through quarterly forecasts. While the long-term planning is instead done mainly through yearly budgets, which is composed during the fall every year. Controller 5 says that each project's budget is the most important long term planning tool and can thus both increase and decrease the perceived Job Demand. The controller explains:

“You already have the total budget for the project, and it is this budget that is important. For the project it (yearly budget and forecasts) is less important. The boss has another viewpoint (makes a gesture that a person has blinds), he only sees the yearly results, if the project takes 10 years it takes 10 years. It is therefore not interesting what happens this month since we still have five years left”
[Quote 5 - Controller 5]

The level of detail in the budget controls places higher Job Demands on Manager 5 because projects lasting over multiple years are broken down into monthly targets. Therefore, the manager is forced to keep track of costs since the predictability that the budget adds is somewhat distorted if the operational costs comes at different pace than what the budget specifies.

In regards to the budget process, the controllers appear to agree that it is a hectic period where flexibility in how to structure each work tasks is rather limited (Controllers 1-7). Thus, leading to lower levels of experienced Job Control. The budget is said to lower the controllers perceived Job Control at the time for the regular monthly closures and the quarterly forecasts, although not at the same extent as during the yearly budget process (Controller 7). The controller's perceived Job Control can also be lowered since it is apparent that managers more often can, on a less foreseeable manner interfere with controllers work by asking questions regarding various problems (Controller 1 & 6).
On the other hand, a couple of managers state that budget controls can increase their experienced Job Control (Manager 3 & 5). The managers motivate this by claiming that budget controls provide the sole foundation from which workdays are based upon. Therefore, the respondents argue that the budget provides freedom to envisage and schedule workdays as one pleases, which hence leads to higher levels of perceived Job Control.

Further, Manager 2 says that KPI controls, when working as they should provides a reliable framework for ensuring that individuals performs what they are accountable for. This is further supported by Controller 1 who claims that KPI controls can help planning upcoming events. This would allegedly enhance Job Control on the long term. On the other hand, the majority of managers agree that the company has so many KPI metrics implemented that the overall picture becomes fragmented. Therefore, the managers argue that the ability for using KPI controls as a snapshot of the firm’s current progression is difficult since they need to dig deep into the numbers in order for them to make any sense. This type of events obviously leads to a significant increase in workload and thus augments the perceived Job Demand. A manager even admits spending more time working with KPI metrics per se than on actual operational tasks (Manager 3). This manager therefore believes that the company has gone from quality to quantitative regarding the amount of implemented KPIs in their eagerness of gaining better control over operations. The manager explains further by saying:

“I have a theory about our KPI metrics. If we’re able to measure our stock prize and company valuation on our parent company with 100 0003 employees with the usages of three or four KPI metrics, I seriously believe that you should be able to measure the operative business with a handful and not 20”

[Quote 6 - Manager 3]

Controller 6 says that every new CFO creates new sets of KPI metrics, which generates an uncertainty for the employees. According to the respondent this lack of standardization regarding KPI controls increases the workload for the controllers, which thus leads to a higher level of perceived Job Demand. The controller explains the situation by claiming:

3 The company employs 60 000 individuals according to corporate website.
“We have just received a new set of KPI metrics and let’s see how long these ones survives. Unfortunately, in the past we have been using a set of KPI metrics as long as the current CFO has been around, and as soon as he leaves the KPI metrics are forgotten and replaced by new ones that the new CFO thinks are better”

[Quote 7 - Controller 6]

The results from the Predictability mechanism presented above are summarized in Table 5 below.

Table 5 - Observations of the Predictability mechanism

<table>
<thead>
<tr>
<th>MCS</th>
<th>Stressor</th>
<th>Effect</th>
<th>Reason stated</th>
<th>Interviewee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget</td>
<td>Job Demand</td>
<td>+</td>
<td>Forecast accuracy</td>
<td>Controller 3</td>
</tr>
<tr>
<td>Budget</td>
<td>Job Demand</td>
<td>+/-</td>
<td>Long term view</td>
<td>Controller 5</td>
</tr>
<tr>
<td>Budget</td>
<td>Job Demand</td>
<td>+</td>
<td>Matching costs</td>
<td>Manager 5</td>
</tr>
<tr>
<td>Budget</td>
<td>Job Control</td>
<td>-</td>
<td>Hectic</td>
<td>Controller 1-7</td>
</tr>
<tr>
<td>Budget</td>
<td>Job Control</td>
<td>+</td>
<td>Foundation for workday</td>
<td>Manager 3 &amp; 5</td>
</tr>
<tr>
<td>KPI</td>
<td>Job Demand</td>
<td>+</td>
<td>Planning and performance</td>
<td>Manager 2 &amp; Controller 1</td>
</tr>
<tr>
<td>KPI</td>
<td>Job Demand</td>
<td>+</td>
<td>Too many metrics</td>
<td>Manager 3</td>
</tr>
<tr>
<td>KPI</td>
<td>Job Demand</td>
<td>+</td>
<td>Lack of standardization</td>
<td>Controller 6</td>
</tr>
</tbody>
</table>

4.4. Rationalization

Only one controller says that budget controls can lower the experienced Job Demands. This is apparent in situations when projects are successful and making more money than what budget had projected. In such scenario, it is perceived that for instance conducting future forecasts is considered less important than if projects are doing worse than what budget had anticipated. This in turn leads to lower levels of experienced Job Demands for the controllers (Controller 3).

When it comes to Job Support a manager clarifies that KPI controls can be helpful by saying:

“…if you’re for example in the need of resources or such it is very simple to acknowledge this through the KPI metrics”

[Quote 8 - Manager 1]
But the manager at the same time acknowledges that one might not always use all of the many KPI metrics that the company has implemented. The manager admits reporting all KPI metrics that the senior management wants, although only consuming a few of them for personal usage on the operational level of work:

“But then you can decide to use fewer KPI metrics… but I think it might have to do with the fact that they (the company) tend to establish many KPI metrics to later find out which ones that are most usable. I already know which ones I believe are usable. It is about five. Then I know what I should look at. The rest you can just simply ignore. If somebody wants to look at them, fine. But I’m not going to spend any energy on them.”

[Quote 9 - Manager 1]

According to the manager this occurrence leads to increasing levels of alleged Job Control (Manager 1). Furthermore, Controller 5 mentions that the large quantity of KPI metrics can both decrease and increase the perceived Job Demand. The Job Demand can decrease because the controller only computes the KPI metrics that the managers find useful. However, Job Demand can also increase since the controller also admits still computing and sending all metrics to upper management when requested. The controller elaborates by stating:

“They create new KPI metrics all the time, every new boss creates new ones. I have mine regardless, I report them to the project team and then my boss receives them and those we don’t have any use for”

[Quote 10 - Controller 5]

Furthermore, according to Manager 3 budget controls can lower the availability for Job Support. The explanation is that each project pays internal transaction costs if using help from other projects in the company. Meanwhile, costs for external help is manually invoiced and will hence not appear on this specific projects budget for the period in question. Manager 3 admits that this sub-optimization forces projects to conduct what the respondent refers to as a “quick and dirty” solution that avoids budgetary costs in the short run, but without solving the problem on a longer perspective.

The results from the Rationalization mechanism presented above are summarized in Table 6 below.
Table 6 - Observations of the Rationalization mechanism

<table>
<thead>
<tr>
<th>MCS</th>
<th>Stressor</th>
<th>Effect</th>
<th>Reason stated</th>
<th>Interviewee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budget</td>
<td>Job Demand</td>
<td>−</td>
<td>Successful projects</td>
<td>Controller 3</td>
</tr>
<tr>
<td>KPI</td>
<td>Job Control</td>
<td>+</td>
<td>Applying useable metrics</td>
<td>Manager 1</td>
</tr>
<tr>
<td>KPI</td>
<td>Job Demand</td>
<td>−</td>
<td>Computing useful metrics</td>
<td>Controller 5</td>
</tr>
<tr>
<td>KPI</td>
<td>Job Demand</td>
<td>+</td>
<td>Computing all metrics</td>
<td>Controller 5</td>
</tr>
<tr>
<td>Budget</td>
<td>Job Support</td>
<td>−</td>
<td>Sub-optimization</td>
<td>Manager 3</td>
</tr>
</tbody>
</table>

5. Discussion

As indicated, our exploratory case results surrounds four identified mechanism by which budget and KPI controls influence job stressors. In this section our results from Table 3-6 will be discussed to gain insight of the identified mechanisms. To further clarify our mechanisms, Figure 1 shows how budget and KPI controls through the four mechanisms can lead to different outcomes. We will further elaborate our mechanisms and its common outcomes, and how they relate to the budget and KPI controls, and the job stressors.

Figure 1 - Common outcomes of the four mechanisms
5.1. Involvement

As seen in Table 3 it was apparent that the involvement mechanism could both increase and decrease managers perceived Job Demands. Through the involvement mechanism managers were able to increase communication with people in the company to reach MCS targets. The need for communication is what increased the workload and perceived level of Job Demand. Managers thus gained better understanding of MCS targets through the mechanism Involvement. According to Haas & Kleingeld (1999) and Shields & Shields (1998) employee involvement in budget processes increase information sharing which lead to enhanced understanding and reduced gaps of knowledge. It is also established that information sharing increases individual performance because it help ensure that employees receive adequate budgetary support (Nouri & Parker, 1998). Thus, in our case we could argue that the involvement mechanism with its increased information sharing led to reduced gaps of knowledge. This ensured that numbers came to life for managers which eventually lowered their experienced level of Job Demand, as seen in Table 3. For the controllers on the other hand, the reduced gaps of knowledge augmented their individual performance and increase their perceived levels of Job Support.

One could argue that the reason for why the involvement mechanism both could increase and decrease the perceived Job Demand, as seen in Table 3, could root in the context of the mechanism. For example, one of the managers experienced that the involvement mechanism increased Job Demand when working with operational businesses. In here, the manager experienced the mechanisms as something that would require an increased workload in order to thoroughly understand the numbers within the budget. This would thus increase the perceived Job Demand. Meanwhile, other managers perceived involvement with others mere as something that would enhance the understanding of budget numbers. This would instead decrease the overall workload and experienced Job Demands. Another reason could lie in the experienced time perspective. One manager experienced that the mechanism increased workload in the short run, while the other perceived that the mechanism would decrease workload in the long run when eventually understanding budget numbers. Thereby, we argue that the involvement mechanism might have different functions depending on contextual situation.
Brownell (1985) claims that being part of budgetary processes has positive effect on overall employee performance and leads to lower levels of perceived stress since support and control is enhanced. Our study showed that dependency of cooperation during budgetary times made controllers and managers involved in each other’s work, which eventually made them communicate coherently. The coherent communication enhanced their ability to compare progress with MCS targets, and thus increased perceived Job Support, as seen in Table 3. However, which also is seen in Table 3, the controllers perceived Job Support during the budgetary process could also decrease. In order to report and send accurate information upwards in the organization, controllers were dependent on involving the preoccupied managers to receive accurate information. These situations have similarities with both Parker & Kyj (2006), who argues that budget participation can increase upward communication of information, and Bisbe et al. (2006), who found that having budgetary involvement helps keep a close bond between managers and employees. However, this dependency on managers could also lead to lower perceived freedom to schedule work for controllers, and thus decrease the amount of Job Control, as seen in Table 3. This corresponds to Hansen et al. (2003) since the upward flow of information in the organization increase hierarchical power and thus reduce Job Control. Furthermore, our study showed that two of the managers who had been employed for less than a year both experienced that being involved in setting budget targets lowered their perceived Job Demands. This finding resembles to Eriksson & Fernholm (2011) who also found that less experienced employees perceive being involved in setting budget targets lowers their experienced Job Demands.

Also noteworthy is that our case company had structured employees in specialized groups e.g. controllers and managers. The controllers brought financial experience to projects and the managers had knowledge of operational aspects. This type of structuring is similar to Flamholtz’s (1983) who claims that specialized groups communicating enhance stability in organizations. The involvement mechanism can be said to enable coherent communication between the two types of specialists. In extension, one could reason that in this case, the involvement mechanism served as a foundation for the comparability mechanism since involvement promotes a common language between the specialists, e.g. managers and controllers.
In brief, from our case study it was shown that a mechanism as of which MCS influence job stressors was identified as involvement. It was thereby shown that the involvement mechanism further enabled managers to better understand the numbers within the budget. The involvement mechanism further allowed controllers and managers to communicate coherently. The mechanism also established a mutual dependence between managers and controllers.

5.2. Comparability

An effect of the comparability mechanism was that KPI metrics, and other performance measurements, could be used as motivational tools. This could occur both between different projects and between KPI targets and actual results. Once targets were met comparability allowed targets to be raised for next month. Hence, personal goal setting could be a main driver for perceived increase in Job Demand. This type of behaviour is consistent with Locke & Latham’s (2002) reasoning that if targets are set too low employees can raise them on their own to make tasks more challenging. However, the increase in Job Demand opposes Kenis’ (1979) reasoning that challenging targets reduce Job Demand. The difference between having employees setting their own targets or having targets set by upper management could be an explanation for the discrepancy between our and Kenis’ (1979) findings.

As presented in Table 4, a controller suggests that once KPI metrics are fully indoctrinated the measurement consistency will increase Job Support. This since comparability between for instance projects, units, and departments will be enhanced and thus likely promote hierarchical information sharing. This would connote that management could use comparability aspects between units in order to monitor performance and thereby modify targets. Such scenario would correspond to Tung et al. (2011) who claim that KPI controls could increase perceived Job Support from providing suitable information for evaluating employee performance.

Weick (1983) argues that the stability of budget control can enhance employees Job Control. However, as seen in Table 4, managers perceived that the stability of a common language with budget controls provided an increased level of experienced Job Support. The stability of having standardized ways for how to work with MCS enabled employees to compare numbers between different projects. Yet, the many changes of management and implementations of
new KPI metrics led to a lack of standardization. Thereby, the company's attempt for gaining comparability between projects increased the managers workload since they needed to overcome the unawareness of the KPI numbers. This increased the managers perceived Job Demand, as seen in Table 4. One could argue that the implementation of new KPI metrics should not have had an impact on the level of Job Demand since data should have been calculated in a comparable and standardized manner. This would imply that a new set of KPI metrics should be recalculated with ease and thus not increase the perceived levels of Job Demand for employees.

As mentioned before, having comparability between projects and units can be beneficial for both employees and upper management. The benefits can exceed beyond motivational factors and efficiency reasoning during creation of performance measurement goals. During our exploratory case study we found indications that comparability could act as a stepping-stone other mechanisms. In some situations the comparability mechanism could enable the organization to gain predictability by comparing MCS targets with current results.

To sum up, the second mechanism as of which MCS influence job stressors was identified as comparability. The comparability mechanism helped controllers use KPI controls as motivational tools. The mechanism also enabled managers’ standardization on how to work with the MCS.

5.3. Predictability

Our results suggest that short-term budgetary control was a rather important planning tool for the upcoming months. However, for this tool to be useful it had to be predictable. The company’s strive for predictability through forecast accuracy thus increased perceived level of Job Demand, as seen in Table 5. Therefore, our findings differ from Weick (1983) who argues that predictability instead can increase Job Control. However, in situations when results were better than projected in the budget, Job Demands was perceived as lower than if results were worse than projected. However, it became evident that not all controllers saw forecasting as something that gave them a higher degree of predictability. In one case the opposite was true in the sense that one Controller gave little attention to forecasting and yearly budgeting and solely focused on long-term project budget. Thus, the short-term results were not important and were simply dismissed as something only upper management looked
at. This interviewee gave a response more in line with Weick (1983), who described how budgets could provide predictability for the employee. It is possible that this controller saw the long-term budget as something that would be achieved if no pre-emptive actions were taken. It is possible that the controller who found forecasting useful had another point of view. This controller might want to impact the result to a greater extent than what the budget specified.

While controllers perceived that budget control could decrease perceived levels of Job Control, a couple of managers experienced that it instead could increase their Job Control, as seen in Table 5. This occurred because budget control seeded predictability and became the foundation for the managers’ workday. One could argue that the controllers provides a service for the managers that lead to higher Job Control for the managers whilst lower Job Control for the controllers. This finding is similar to Weick’s (1983) argument regarding that budget control can add predictability and thus increases Job Control for employees. Further, Table 5 shows that KPI controls were found to increase perceived levels of Job Control for managers. One could argue that this helped managers to focus on what they were responsible of, which supported their work and ensured that projects were on track to reach targets and thus achieved a more stable future. However, when the quantity of KPI metrics increased workloads and thus perceived levels of Job Demand augmented as well. The notion that KPI controls can lead to higher workloads and thus increase Job Demand is also found in Eriksson & Fernholm’s (2011) study.

It is not an unfamiliar event that a company, such as our case company implements new sets of KPI metrics in relation to changes of upper management. Samsonova et al. (2009) claims that changes in KPI metrics are highly connected with organizational strategy, and Tung et al. (2011) suggested that a properly designed set of KPI controls can be used to communicate goals and strategies of organizations. As seen in table 5, a controller claimed that the uncertainty and lack of standardization derived from having new KPI metrics implemented augmented their workload and hence increased experienced Job Demand. One could argue that this scenario is similar to Greubel & Kecklund’s (2010) reasoning when claiming that even an anticipation of change in job environments can lead to higher level of work stress and thereby increased Job Demands for employees.
Moreover, controllers predicted that the yearly budget process would be hectic and that overtime likely would be necessary. Thus, despite considered predictable, the budget process still lowered experienced Job Control, as seen in Table 5, since managers at any time could interfere with controllers work. A possible explanation could be found in Härnestam’s (2008) reasoning when arguing that individuals in decentralized organization is exposed to pressures from multiple sources with little possibility to schedule their work.

In sum, the third mechanism as of which MCS influence job stressors was identified as the predictability. The predictability mechanism helped both managers and controllers to establish a stable future. The mechanism also helped managers to focus on what they were responsible of doing.

5.4. Rationalization

It appeared that most managers had opinions regarding which KPI metrics that gave them best overall view over projects progress. The high amount of KPI metrics affected Job Demand, and both managers and controllers gave indications that they reported all KPI metrics upper management wanted. However, a manager admitted only utilizing the KPI metrics that appeared as most useable for their own work and then rationalized those metrics they experienced as less useful. Thus, the manager used less KPI metrics in order to increase the perceived Job Control, as seen in Table 6. This finding is somewhat similar to Weick’s reasoning (1983). However, he argues that the simplification of a complex task can help reduce the overall workload, which thus would decrease the perceived Job Demand.

The rationalization mechanism was also evident in situation when actual current numbers were better than projected in the budget. When a buffer existed between current numbers and the budget complex forecasting was perceived less important. One can argue that knowing how much better the results are going to be is considered less important than if the results were worse than planned. Thus, the complex forecasting became simplified and given less of a priority, or even removed.

We have also found instances where MCS caused changes in how employees utilize internal resources. These changes could not be seen as a planned strategy per se, but rather as an outcome of rational behaviour for adaptation to MCS. These changes occurred when setting a
price on internal resources. Employees rationalized the usage for internal resources by substituting them for external resources, even though it led to a less favourable outcome than if internal resources would have been used. One could argue that rationalization thus can change focus for what is good for the company to what is good according to the MCS. Hence, actions that are good according to a specific MCS might not be beneficial for the company overall. In such scenario one could question the adequacy of the MCS.

To summarize, the last identified mechanism as of which MCS influence job stressors was rationalization. This specific mechanism helped employees focus on the metrics, which was most useful for them in their line of work. The mechanism further added efficiency since it helped employees to focus on fewer and more essential parts of their work.

5.5. Limitations to our study

The turbulent environment at the studied company could have had an impact on the interviewees’ responses. However, at very few occasions did we receive any indications at all that the current situation in any form should have affected the respondents’ perception of their MCS and how it in turn influenced the job stressors. This allowed us to be confident that the situation had no, or little impact on the responses we received.

If we had done our exploratory case study at a later time the MCS’s might have changed to adapt new organizational needs, which thus would have enabled other mechanisms to be identified. As mentioned, MCS can work as a package and it is thereby possible that budget and KPI controls could have influenced each other. Different forms of MCS, such as administrative or cultural controls could also have influenced the job stressors. However, neither did we receive any indications that this was the case at the company, nor was it within the scope of this study to explore such an event. Besides, it was early evident that budget and KPI controls were the most prominent MCS in this organization, which allowed us to focus solely on these two types. Neither can we exclude that there could have been aggregating effects between KPI and budget controls that never become transparent in our case study. In other words, we cannot exclude that budget controls influence on the job stressors also could have been influenced by KPI controls or vice versa.
In line with the critic towards the JDCS model it is possible that our two different categories of interviewees could have regarded high Job Demands differently. However, since the majority of the respondents experienced that they had high Job Demands, we did not reckon this as a problem. Besides, we argue that it is hard to establish that individuals within the same category not could regard high Job Demands in different ways. Another issue with the JDCS model is that it can be hard to establish the difference between the stressors Job Demand and Job Control. However, our pilot studies ensured us that our interview questions were understandable for the respondents and thus provided us with valid answers.

Finally, in this paper we have not explored chain events other than if a mechanism led to another mechanism before influencing the stressors. In other words, we have not thoroughly explored when a stressor led to another. Since it is established that Job Support works as a buffer for Job Demands and Job Control it is likewise outside the scope of this paper to explore which stressor Job Support might lead to.

6. Conclusions

Our main objective with this paper was to explore how MCS influence job stressors. More specifically our research aimed to unravel the mechanisms by which budget and KPI controls influence job stressors. Our case study, which was based upon the Job Demand, Job Control, and Job Support model found various combinations of how budget and KPI controls influenced the job stressors Job Demand, Job Control, and Job Support.

Our study’s main contribution was to unravel four mechanisms by which budget and KPI controls influenced job stressors. The identified mechanisms were labelled Involvement, Comparability, Predictability, and Rationalization, in where involvement was shown to be most prominent. The involvement mechanism increased managers ability to understand numbers within the MCS. The mechanism also allowed controllers and managers to communicate coherently and established a mutual dependence between them. The comparability mechanism helped controllers use KPI metrics as motivational tools, and enabled standardization for managers. The predictability mechanism enabled managers and controllers to establish a stable future. The mechanism also helped managers focusing on their responsibilities. The rationalization mechanism helped managers and controllers to focus on the most important metrics and essential parts of their work.
Our results indicate that it would be of interest for future research to continue exploring MCS and its influence on job stressors. The mechanisms identified in this study might be different if exploring a company within a different context. Hence, to gain knowledge regarding how MCS influence job stressors it would be interesting for future researchers to explore the mechanisms by which MCS affect job stressors in a different context. It would further be interesting for future researchers to explore chain events between different types of mechanisms. In other words, to explore if a stressor can lead to another before eventually influencing the job stressors. It would also be interesting to conduct a study where different kinds of budget and KPI controls were explored more thoroughly since there are many different types of MCS constructed differently for various purposes in an organization.

Finally, as a recommendation to practitioners this study can help upper management or whoever is responsible of implementing MCS realize that budget and KPI controls can have multiple effects on employees and their behaviour. In other words, our study underlines that a single MCS, such as budget or KPI controls for instance can both increase and decrease the perceived level of Job Demands for employees and so on. Thus, practitioners needs to be aware that even if budget or KPI controls enhance the work for some employees it might have negative consequences on others.
7. References


8. Appendix

Interview questions for eleven interviews in Swedish:

1. Kan du berätta om din position i företaget och dina arbetsuppgifter?
   - Hur länge har du varit anställd här?

2. Hur skulle du beskriva de krav som ställs på dig i ditt arbete och på din arbetsprestation?

3. Hur upplever du att budgeten påverkar kraven på din arbetsprestation?

4. Hur upplever du att KPI:na påverkar kraven på din arbetsprestation?

5. Hur upplever du din möjlighet till att själv styra över samt lägga upp ditt arbete och dina arbetsuppgifter?

6. Hur upplever du att budgeten påverkar dina möjligheter att lägga upp ditt arbete samt dina arbetsuppgifter såsom du själv vill?

7. Hur upplever du att KPI:na påverkar dina möjligheter att lägga upp ditt arbete samt dina arbetsuppgifter såsom du själv vill?

8. Hur upplever du möjligheten till att få stöd från chefer och kollegor i ditt arbete?

9. Hur upplever du att användningen av budget påverkar dina möjligheter till att få stöd från kollegor och chefer?

10. Hur upplever du att användningen av KPI:na påverkar dina möjligheter till att få stöd från kollegor och chefer?

Interview questions for one interview in English:

1. Can you tell us about your position within the company and what your job duties are?
   - How long have you been employed?

2. How would you describe the job demands within your work?

3. How do you perceive that budget controls influence your job demands?

4. How do you perceive that KPI controls influence your job demands?

5. How would you describe your ability to control your own work?
6. How do you perceive that budget controls influence your job control?

7. How do you perceive that KPI controls influence your job control?

8. How would you describe your ability to receive support from bosses and peers within your work?

9. How do you perceive that budget controls influence your job support?

10. How do you perceive that KPI controls influence your job support?

Company information sheet

Studie om ekonomistyrning och prestationspåverkande faktorer

Vi heter Eric Fridlund och Lars-Erik Wilhelmsson och genomför under denna termin vårt masterexamensarbete i företagsekonomi vid Uppsala universitet. Vår handledare är Dr Lars Frimanson.

Syftet med vår studie är att undersöka hur ekonomiska styrsystem påverkar medarbetarnas prestationssätt. Mer specifikt avser studien att undersöka hur olika styrsystem påverkar tre kända s.k. stressorer (som minskar eller ökar stressreaktioner och därmed prestationsförmåga) hos medarbetarna:

i) krav på arbetet
ii) kontroll över arbetssituationen
iii) stöd från chefer och medarbetare

Bakgrunden till studien är att forskningslitteraturen genomgående visar att prestation är starkt beroende av dessa tre faktorer—höga krav ger hög prestation om kontrollen över arbetssituationen och möjligheten till stöd är hög. Men tidigare forskning har inte undersökt styrsystemens effekter på dessa samband. Vår studie kan därför:

- visa hur olika styrsystem påverkar dessa samband i er organisation
- visa vilka styrsystem som har störst effekt på medarbetarnas arbetsprestation
Vi vill poängtera att vi inte på något vis undersöker stressnivån hos medarbetarna.


Intervjupersonerna kommer att anonymiseras i kommande publikationer, och företaget väljer givetvis om företagsnamnet ska publiceras eller ej.

Vi hoppas att vi väckt Ert intresse och att Ni vill bidra till företagsekonomisk forskning genom att låta oss genomföra studien hos Ert företag.

Med vänlig hälsning

Eric Fridlund Lars-Erik Wilhelmsson
my.mail_gmail.com my.mail_gmail.com
070-xxx xx xx 070-yyy yy yy

Swedish quotations from exploratory case research

“Det som är viktigt, vilket man blivit medveten om som ny, är att man måste vara mycket mer insatt i processen för att förstå de siffrorna”
[Manager 1 – Citat 1]

”Du får leva med din budget ett helt år”
[Controller 7 – Citat 2]

”Det blir ju en tröghet då eftersom jag då måste bråka mer för att få den hjälp jag vill heller måste hålla kostnadskontrollen, dvs jag har inte råd och ta in den hjälp jag egentligen skulle utan jag gör en quick and dirty-lösning på det just nu för att släcka branden, men jag har inte undanröjt grundproblemet”
[Manager 3 – Citat 3]

”Det är mot budgeten vi liksom mäts på och så jämför vi ju med budgeten hela tiden”
"Du har ju redan totalkalkylen för projektet och det är ju den som gäller. För projektet spelar det ju ingen roll. Chefen har ju en annan syn, han ser ju bara året så här (intervjuobjektet visar en person med skygglappar), tar projektet tio år så gör det ju det. Det är ju ointressant vad som händer den här månaden.. Vi har ju fem år kvar."
[Controller 5 – Citat 5]

"Jag har en tes om det där, vi klarar av att sätta börskursen på vårt moderbolag med 100 000 anställda med 3-4 nyckeltal, då tycker jag att man ska kunna mäta den operativa verksamheten på 5 nyckeltal och inte 20."
[Manager 3 – Citat 6]

"Vi har precis fått en ny variant så vi får se hur länge den lever kvar. Tyvärr har det varit så att vi kör igång och så eldar någon på som sedan försvinner så faller det i glömska och sedan kommer någon ny in."
[Controller 6 – Citat 7]

"…om man t.ex. är i behov av resurser eller dyl. så är det ju väldigt enkelt att påvisa det med KPI:erna"
[Manager 1 – Citat 8]

[Manager 1 – Citat 9]

"De hittar ju på nya KPI hela tiden, varje ny chef tar fram nya KPI. Jag har mina för mig ändå. Som jag rapportera till teamet och sedan lite extra till chefen som inte vi har nyttat utav"
[Controller 5 – Citat 10]