Employee Satisfaction Management on Job-related Stress

--- The mechanism between middle level manager’s leadership and knowledge worker’s autonomy

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Background: Resource-based view emphasizes that the competitive advantage of organization is built on two elements: resources and capabilities/competences, which are related to employees within it. And job-related stress is a phenomenon in workplace and a problem in employee satisfaction management.

Aim: How are decision-making latitude in terms of autonomy, as the need of knowledge worker, and his/her job-related stress related? How is knowledge worker autonomy affected by middle level manager’s authority? What is the mechanism between middle level manager’s leadership and knowledge worker’s stress?

Definitions: Stress: the overall transactional process; Stressors: the events or properties of events (stimuli) that are encountered by individuals; Strain: the individual’s psychological, physical and behavioral responses to stressors; Outcomes: the consequences of strain at both the individual and the organizational levels.

Completion & Results: The mechanism among elements in and between knowledge worker and middle level manager is identified and presented.

Search terms: Job-related stress, Knowledge worker, Decision-making latitude (autonomy), Job demand, Leadership style.
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1. Introduction

1.1 Observation

The “enterprise culture” of the 1980s is “a decade of privatization, merger mania, joint ventures, process reengineering, and the like, which transformed workplaces into free-market, hothouse cultures” (Cooper, et al., 2001, pp.xi). According to Cooper, et al. (2001), this entrepreneurial period brought not only economic competitiveness, but also the first sights of job-related stress shown by working people.

The levels of stress are different from one occupation to another. Summarized by Schultz and Schultz (1998), the highest stress levels is experienced by laborer, secretary, clinical laboratory technician, nurse, first-line supervisor, restaurant server, machine operator, farm worker and miner. One of the least stressful jobs is college professor according to the survey done by National Institute for Occupational Safety and Health (NIOSH), which included 130 kinds of occupations.

Linköping University, “the only university that carries out regular employee review”, continually makes effort on researching employee satisfaction. According to the surveys done every two years in the campus from 2004 to 2010, “only 43 percent of employees felt satisfied in any degree with conditions in the organization; today it is 57 percent. On issues of decisiveness and participation, 68 percent gave positive answers in 2004; today it is 78 percent. In the previous review 69 percent stated they were satisfied with the leadership, up ten percent compared to 2004” (Linköping University, 2011. LiU employees seem to be more satisfied). The progress can be seen from the figures above. Even though the university realizes the issue and makes effort on it, problems still exist. The complaints about the job-related stress still exist, presented as anxiety, exhaustion and so on, and 80% faculties consider they are engaged with the health problem caused by their jobs. Data shows that the satisfaction
with the personal work situations has almost stayed still with just 2% increase (from
61% to 63%) from 2004 till 2010. Though the employees in the university feel that
they have enough resources, the situation of high workload and employee health
problems is still reflected by the data (Linköping University, 2011. LiU employees
seem to be more satisfied). Thus, job-related stress is also a problem in university and
influence the employee satisfaction.

The job-related stress can influence employee satisfaction and health, which means
job-related stress has the negative effects on employee’s psychological and physical
healthiness and it seems that this is a personal problem. But, how important is it for a
university? How can stress be in a university?

### 1.2 Research background

The importance of stress issue can be explained by the contribution of job satisfaction,
which can be further understood by investigating management resource-based view
(RBV).

As stated by Zhou and George (2001), job satisfaction is among the most widely
studied constructs in organizational behavior. A high level of job satisfaction
contributes positively to organizational effectiveness and employee well-being. On
the other hand, a low level of job satisfaction, or job dissatisfaction, is detrimental for
organizations and their members. And these relations are proven by research that link
job satisfaction to important phenomena such as absenteeism, turnover and citizenship
behavior (Zhou & George, 2001).

The dissatisfaction among employees is not a problem itself, but the reactions to it
really matter. According to Zhou and George (2001), employees respond to job
dissatisfaction in one of four ways: exit, voice, loyalty, and neglect. **Exit**: dissatisfied employees may quit their jobs in response to their job dissatisfaction; **Voice**: dissatisfied employees may choose to remain in their organization and actively try to improve conditions, actively searching for and coming up with new ways of doing things and advocating changes to make conditions better; **Loyalty**: dissatisfied employees may remain in the organization but respond passively to their job dissatisfaction by accepting without raising any objections and making any suggestions for improvements; **Neglect**: dissatisfied employees may remain in the organization and exhibit passive withdrawal behaviors such as executing less effort.

It is obvious that **exit, loyalty** and **neglect** behaviors have negative influences on employees themselves and also organization. Even though Zhou and George (2001) argue that the **voice** behavior may sometime lead to creativity, it quite depends on the capability of the individual, the type of organization and the form of institutional intervention. From this, it is sound to state dissatisfaction is an organizational problem and should be handled properly in order to elevate individual and organizational performance as a whole.

“From the 1990s, the focus of strategy analysis shifted from the sources of profit in the external environment to the sources of profit within the firm. Increasingly the resources and capabilities of the firm became regarded as the main source of competitive advantage and the primary basis for formulating strategy” (Grant, 2010, pp.130). This emphasizes on the importance of Resource-Based View (RBV) as a management tool. Based on this view, the competitive advantage of firm is built on two elements: resources and capabilities/competences. First, “the resources owned by a firm include tangible, intangible and human resources and the firm’s human resources are comprised by the expert and effort offered by employees” (Grant, 2010, pp130). This shows the importance of employees and their performance. In addition, the employees’ capabilities contribute to the competences of the firm. Even though
the competence of the firm is not just a sum of capabilities of the employees within it, the later ones are a significant component of the former ones. Therefore, for both aspects of organizational resource and capability, it is true that the employees are one kind of significant “asset” in the firm and it is beneficial to keep them in the organization in the general settings.

According to Swan and Bowers (1998) and Winsted (2000), customer satisfaction is strongly related to employee behavior, which can influence customer satisfaction either positively or negatively. In addition, as summarized by Tsai (2009), employees’ service quality, which is the perceived employee behavior, is influenced by the level of employee satisfaction. Even though the relationship between staff satisfaction and their performance is affected by several factors, such as the performance criteria and the kind of job, the quality of labor quite depends on employees’ satisfaction (Tsai, 2009). Thus, it is still wise to say that, in general the good emotion and satisfaction of staff contribute positively to work performance. Therefore, based on these relationships, between employee satisfaction and work performance and customer satisfaction, we can conclude that the level of employee satisfaction can influence customer satisfaction, which decides the customer purchasing behavior, through providing different qualities of service. In the university, the situation is similar. The performance of faculties is evaluated and can influence students’ performance and satisfaction, which are related to the reputation of the university.

Besides, organizational commitment, which is defined by Mowday et al. (1982 cited in Michael, 2006) as the psychological bond that an employee has with an organization contributing to the behavior investment in the organization and likelihood to stay within an organization, is found to be related positively to employee satisfaction and negatively to the job stress (Sanchez and Brock, 1996). In addition, based on the 17-year research done by Organ and Ryan (1995), employee satisfaction is the robust and leading predictor of employee organizational citizenship behavior.
(OCB), which means the individual contributions in the workplace that go beyond role requirements and contractually rewarded job achievements. This includes both providing positive contributions and avoiding harmful unproductive behaviors in the organization. Therefore, high level of employee satisfaction itself contributes to the development of organization by arousing employee commitment and organizational citizenship.

Based on the analysis above, employee satisfaction management is one aspect of human resource management, aiming to retain the employee in the organization as significant “asset” and induce the favorable outcomes, like commitment and OCB. And the necessity of managing employee satisfaction is undoubted for an organization.

Through the early researches (Machlup, 1962; Cortada, 1998; Horibe, 1999), the faculties in the university, who are responsible for the tasks like teaching, researching and so on, are knowledge workers, as they hold the intellectual resources of the organization in their heads, use their knowledge rather than their physical skills to create value, they are not the person who manufacturing goods or doing field work, and they are treated as “capital assets” which distinguish from the manual worker. In the organization, they are employees, so they are required to do work and reach certain results expected by employer, called job demands (Karasek, 1979). In addition, they have high levels of education in different kinds, so to some extent they are more self-controlled and more likely to pursue freedom and autonomy in their work (Horwitz, et al, 2003; Kinnear & Sutherland, 2000; Carneiro, 2000; Cartada & Woods, 2000). The freedom and autonomy which knowledge worker needs can be related to the theory which Maslow formulated in 1943, he described and illustrated in the needs hierarchy theory about the needs of human being. Maslow (1943) points out that there are physiological, safety, belonging and love, esteem, and self-actualizing needs. According to Maslow, human beings always seek for better life, once the living
condition has reached a certain level, they would try to climb up to the next stair. But it does not mean that a need must be satisfied fully before need in next level arises. Moreover, Maslow’s theory can be implemented as the tool to search for the answers of the questions like ‘what does a knowledge worker want from the job’, ‘what does a knowledge worker pursue in the job?’, ‘what does a knowledge worker want to achieve?’ and so on. Autonomy in the workplace is represented as job decision latitude, the involvement of the worker, according to Karasek (1979). And these two, job demands and job decision latitude, are two factors related to job-related stress. The explanation of the relationship can be the fitness between individual and environment presented in P-E model (French, et al., 1982). Knowledge workers, as employees in the organization, are managed to exert their capabilities. So, knowledge workers’ working environment is influenced by managers, but not all managers are involved in this level of management. Middle level manager is the person who has the influence on knowledge worker, the reason for this will be discussed in next part of thesis. Thus, the mechanism of job-related stress generation can be understood as the result of interaction between knowledge worker and middle level manager as the environment, which will be explained further afterward.

1.3 The purpose and benefit of the thesis

Based on the analysis above, the employee satisfaction is significant for the survival and development of an organization, but workplace stress plays a negative role in building employee satisfaction.

In this research, the authors aim to make the effort on understanding the problem engaged by knowledge worker in term of job-related stress in the organization. With the paper, we try to understand and explore the mechanism between knowledge worker and middle level manager as the environment.
For the motivation and potential contribution of this thesis, the author aim to make this paper a tool which can guide the manager in the organization that faces the similar situation, the manager can understand how the mechanism between the knowledge worker autonomy and their working environment.

In this thesis, first aim is to implement theories to analyze the job-related stress, including the causes and effects of it. Besides, combined with the theories, analyze the case to identify the patterns and mechanism among different variables.

1.4 Structure of the thesis

Part I: the introduction of the topic, overview of the background and purpose and benefit of the thesis.

Part II: the frame of reference, dealing with the concepts will be used.

Part III: methodology of the research, statement of the overall methodology.

Part IV: empirical study, analysis of the empirical research.

Part V: conclusive part, including the conclusion and closing comments of the thesis.
2. Frame of reference

In this chapter, authors focus on the related theories, including theories of stress, knowledge worker and P-E model, and there are some sub-category theories in each part. During the review, authors do summary for each theory and some time use the own-design picture or table to make the theories clear and easy to understand.

2.1 Theories of stress

2.1.1 Definition of stress

There are wide discrepancies in the way in which stress is defined. For example, Cox (1985) defines “stress” variously as both an independent and a dependent variable and as a process. And the confusion is aggravated by applying “stress” concept in different settings, such as medical, behavioral and social science researches.

Lazarus and Launier (1978 cited in Cooper, et al., 2001) suggest to think of stress as being relational rather than an independent element, which means the stress is the result of the “transaction” (Lazarus, 1990) between the individual and the environment. This transactional approach defines stress as a process linking individual to the surrounding environment. This approach emphasize on transaction, leading to a conclusion that stress is neither solely in the individual nor solely in the environment, but it is a result from interaction between individual and environment. Based on this, the generation of stress requires two entities: the stimuli (environment) and the responses (individual). In addition, from transactional perspective, stress is embedded in an ongoing process and is a dynamic cognitive state rather than a static one (Lazarus, 1991 cited in Cooper et al., 2001). This process consists of two steps: first, an individual encounters the environment and appraises it in terms of harm, threat or challenge; second step is about the identification and availability of coping
resources to deal with the appraisal generated in first step. Thus, stress may arise when demand for certain resources, which is appraised by individual, is more than availability of them. According to the perceived condition, individual should implement a certain response and then cause related result, which may compromises the physical or/and psychological well-being of an individual. Based on the analysis above, the conceptualization used through this research is as suggested by Cooper et al. (2001): **Stress**: the overall transactional process; **Stressors**: the events or properties of events (stimuli) that are encountered by individuals; **Strain**: the individual’s psychological, physical and behavioral responses to stressors; **Outcomes**: the consequences of strain at both the individual and the organizational levels.

So, the stress is not an element of transaction, but a whole process.

### 2.1.2 Job-related stress

The major focus of this research is on job-related stress, which is the stress caused by job-related strain (Cooper et al., 2001), in the organizational context. Because stress is more a process than an element or result, McGrath (1987) suggests using the appropriate theoretical models to investigate it, he states that theoretical model can illustrate not only the relationship between events in stress transaction but also the sequence of them. Thus, the theoretical models below can reflect all aspects of stress transaction.

Stated in Cooper, et al. (2001), there are some popular widely discussed models for explaining and analyzing the job-related stress, such as interactional framework, work stress model, job demands-control model and so on. Among them, job demands-control model, which is developed by Karasek (1979), is chosen as a tool to investigate the stress in this research. Because, first it can provide a sufficient and
comprehensive view of job-related stress as a process as discussed above, which is consistent with the conceptualization; second, it best fits the angle, in term of control and autonomy, from which we, as researchers, look at job-related stress issue.

This model was developed and tested by Karasek, based on the national survey data from Sweden and the United States. The model postulates that psychological strain (positively related to stress), results not solely from a single aspect of the work environment, but from the joint effects of the demands of a work and the range of decision-making latitude (negatively related to the level of being controlled) available to the worker facing those demands.

Based on the explanation by Karasek (1979) and Karasek and Theorell (1990), there are two measures in this model: job demands and job decision latitude. By them, two aspects of the job situation are represented respectively. The first measure, job demands, is an independent variable as the instigators of action (work load demands, conflicts or other stressors which place the individual in a motivated or energized state of "stress"), in other words, it is the job requirement assigned. The second measure, decision latitude is defined as the working individual's potential control over his tasks and his conduct during the working day. It is the constraints on the alternative resulting actions and modulates the release or transformation of potential energy into the energy of action. Besides, in the model, there are four distinctly different kinds of psychosocial work experience (or be called work context) that are
generated according to the interactions of different levels of these two measures, they are: high-strain job, low-strain job, passive job and active job.

*High-strain job:* as the result of high job demands and low decision latitude. It is the most adverse reaction of psychological strain, which is shown by data in the work of Karasek (1979). It is primarily that workers with jobs simultaneously low in job decision latitude and high in job demands who report exhaustion after work, trouble awakening in the morning, depression, nervousness, anxiety, and insomnia or disturbed sleep (Karasek, 1979). As summarized by Karasek and Theorell (1990), this kind of job includes waitress, telephone operator and so on.

*Low-strain job:* as the result of low job demands and high decision latitude. It is a highly desirable state with the few psychological demands and high level of control, which means that the worker can respond to each challenge, because of relatively few challenges. Karasek and Theorell (1990) summarize that this group of worker could be natural scientist, architect and so on.

*Active job:* as the result of both high in two measures. In the table, it includes the most challenging situations requiring the highest levels of performance. But, because the worker is allowed to exert whatever he or she has and test new skill with the high autonomy, it is a favorable context without negative psychological strain. And the worker has the opportunity not only to strengthen the skill, but also to test and comprehend new idea. The professional athlete can be the representation of this group of workers, who has the freedom to use all his or her skills in the match to reach the highest performance.

*Passive job:* as the result of both low in two measures. This situation is the second major psychological problem in the table, just next to the high-strain job. As stated in Karasek and Theorell (1990), it may cause negative learning or gradual loss of
previously acquired skills resulted from no opportunity to test the idea, because of the lack of challenges and predefined environment. This phenomenon could lead to lower-than-average levels of leisure and political activity outside the job. This type of job could be quite routine-based ones with low requirement on performance, like deliveryman and watchman.

Two predictions in the model are verified by Karasek (1979). First, strain increases as job demands increase, relative to decreasing job decision latitude, along the Diagonal A. Second, when the challenges, in term of job demands, are matched by individual's control in dealing them, the improvement of individual competency is more likely to occur. This means, along the Diagonal B, the "active" context with simultaneously high job demands and job decision latitude is beneficial for individual competence development; on the other hand, the "passive" context may have a negative influence on individual learning and lead to a decline in problem-solving activity.

Thus, the stress in the workplace could be understood as the whole process of the interaction between job demands and job decision latitude. In the real organization, these two factors could be represented as responsibility of worker and involvement in decision-making process. The higher the job demands are, the bigger the responsibility is; the more job decision latitude a worker has, the more he or she is involved in decision-making process, which means that the more autonomy he or she has.

### 2.1.3 The distribution of job-related stress

Based on the demand-control model, there are different kinds of job-related stress. Some may come from high job demands; some may come from low job decision latitude; and some may be caused by the interaction between both. Thus, the stress in
different levels of the organization should not be the same, because the demand-control context is different from one level to another.

According to the demand-control model, when the job decision latitude is low, the settings encountered by worker are high strain job and passive job. And both of them have negative effects on worker and organization, no matter whether job demands is high or not. But whether high job demands could lead to job-related stress or not, it depends on the level of decision latitude. From the analysis, to some extent, the job decision latitude is a decisive factor in causing job-related stress. This point of view is supported by Schultz and Schultz (1998), they conclude that the difference in felt stress, which can lead to different level of job satisfaction, is decided by autonomy, in term of control.

2.1.4 The effects of job-related stress

The effects of job-related stress are outcome of the whole stress process. As explained above, the outcome is on two levels---individual and organizational levels. On the individual level, it could be understood as strain: the individual’s psychological, physiological and behavioral responses to stressors. And the individual responses of the stress influence the organization as a whole.

Effects on individual

The stress may directly lead to physiological problem on individual. The basic setting can be described as the accident happen when necessary tool to fulfill the assignment is absent, because the worker does have the right to decide how he or she finish the task. For example, a worker is given a dangerous task and he cannot ask for any
protection. Also, the stress may influence worker’s physiological healthiness indirectly with the psychological response as intermediary, which will be discussed later on. Therefore, the health condition could be a measure of stress, whether general, mental or physical including somatic complaints, illness, health problems and physical symptoms.

Based on their reviews, Jex and Beehr (1991 cited in Cooper et al., 2001) summarize that the psychological strains are the significant measure and result of stress. In the work by Kahn and Byosiere (1992 cited in Cooper, 2001), the results and also the measures of psychological strains include: Anxiety/tension; Boredom, fatigue, tedium, depersonalization, emotional exhaustion and overall burnout; Emotions, including confusion, irritation, resentment, emotional arousal and alienation Depression; Other problems with self-confidence, self-esteem, sexual maladjustment and turnover intent

Jackson and Schuler (1985) relate these indicators to the job satisfaction, and they consider the job dissatisfaction, including general dissatisfaction and dissatisfaction with supervision, work, coworkers, pay and promotion, as the indicator of the psychological strain from stress. In other words, the level of job satisfaction is influenced and can reflect the emotional state of the worker. Thus, this point of view is supported as job-related stress can influence employee job satisfaction negatively through harming individual physiological and psychological health.

From this, we can see the psychological harm caused by stress. In addition, according to the work of Cooper et al. (2001), the physiological strains can be produced by psychological ones, like the high anxiety or tension can cause high blood pressure and cardiovascular disease.

Based on the analysis, it is clear to draw a picture to illustrate the relationship between job-related stress and individual health:
The behavioral response to the job-related stress also do harm to individual. According to Levi (1987), the common negative behavioral response includes the abuse of alcohol, tobacco or drugs, unnecessary risk-taking in working life and in traffic and unprovoked aggressive and violent behavior towards oneself or a fellow. It is clear that these destructive behaviors caused by stress or be as the ways of releasing stress are harmful for an individual. And these behaviors influence not only individual physical health, but also psychological one, for example the abuse of alcohol may lead to unstable emotion. Here we would like to add “behavioral response” to Fig.2 in order to present a whole relationship between job-related stress and individual health and complete the figure.

So, till now, the effects of job-related stress on individual have been discussed according to three aspects---psychological, physiological and behavioral. Afterward,
the effects of job-related stress on organization will be investigated.

**Effects on organization**

As described before, the influence of job-related stress on organizational level comes from the individual behavioral response. This point of view is supported by Jex and Beehr (1991 cited in the Cooper, 2001), who state that the research about individual behavioral strain should be the most important from an organizational point of view. It is certain that behavioral response can influence an individual him/herself, but this kind of influence on worker has been categorized into effects on individual and discussed before. In this part, only the behavioral strains cover those significant to the organization will be discussed.

Supported by Cooper, et al (2001), this kind of behavioral responses has a direct impact on organizational functioning, including job performance, turnover and absenteeism, which engenders economic costs. Karasek and Theorell (1990) divide the economic costs of job-related cost into two categories: health costs and productivity costs.

Health costs are the losses of stress-related illness described previously for an organization, including the costs of treatment. Herzlinger and Calkin (1986) conducted a survey in Sweden and USA, and the sample consists of over 200 corporations. The result of their research shows that 24% of company profits were spent on health insurance, direct health care expenditures and health promotion program for employees. And this number was rapidly increasing from 11% in three years, from 1983 to 1986. From this, the health problem is a significant issue in improving organizational performance.
In addition, productivity costs are the more direct costs of job-related stress. Even if worker’s illness is not serious and may not lead to an economically health care cost, employee with negative emotion or bad physical condition cannot fulfill the task accurately and timely. Matteson and Ivancevich (1987) address four types of productivity costs: the costs of absenteeism, turnover, sabotage and extra employee needs to do the job of the stress-impaired work force. Based on this, it is clear that this personal problem is related to organizational performance directly.

As discussed above, even though the job-related stress is more a personal problem, the results from it, as economic costs, are definitely related to the organization and its performance.

To sum up, the job-related stress could engender the negative effects on both individual and organization. On one side, the stress is detrimental for individual physiological and psychological health; on the other side, the effects on an organization are reflected by lower productivity, which is related to absenteeism, turnover, reduced motivation and increased errors.

### 2.2 Knowledge worker

#### 2.2.1 What is a knowledge worker

First, the concept of "knowledge worker" should be explained and clarified. As early as 1980s, the attempt of investigating "knowledge worker" has been done. Drucker (1973 cited in Kidd, 1994, pp.186) describes knowledge worker as the worker “who puts to work what he has learned in systematic education that is concepts, ideas and theories, rather than the man who puts to work manual skill or muscle.” And in the late 1990s, Drucker (1989 cited in Horwitz, et al., 2003, pp.23) complements theory about knowledge worker by pointing out that “individuals who carry knowledge as a
powerful resource, which they, rather than the organization, own.” Besides, some researchers, based on knowledge worker's characteristics, distinguish them from other workers. Cortada (1998, pp.xiii) tries to answer the question ‘what is a knowledge worker?’ by showing his idea that “increasingly everyone is a knowledge worker”, which refers to the situation that now workers perform their work in the industrialized world more with “information and intellectual activities” (Cortada, 1998, pp. xiv) than with only manufacturing goods or even doing field work. Furthermore, Horibe (1999, pp.xi) shows his opinion about knowledge worker as that “knowledge workers are people who use their heads more than their hands to produce value. They add value through their ideas, their analyses, their judgments their syntheses, and their designs.” Cortada and Woods (2000, pp.375) define knowledge worker as “one who uses information technology as a primary work tool and medium”. And they, from both economic and productive perspectives, distinguish knowledge worker from the manual worker and conclude that knowledge worker is treated as the “a capital asset”.

Finally, the jobs done by knowledge worker and importance of them have been researched. Reich (1994 cited in Khoury, 2005, pp.27) merges the concept “knowledge worker” with the idea “symbolic-analytic services”, and summarizes knowledge worker’s job as “services problem-solving, problem-identifying, and strategic-brokering activities”, which is considered as the characters of knowledge worker by author. And, Khoury (2005) emphasizes the importance of knowledge worker acting as the intellectual capital in the organizational victory or failure.

After understanding the concept of "knowledge worker", it is clear that teachers and researchers, who are our target group in this research, are in this special kind of worker group, and this point of view is supported by early researchers. In the early age, Machlup (1962, pp.33) categorizes teacher, clerk and researcher into one sort of worker, who is responsible “for the entire spectrum of activities, from the transporter of knowledge up to the original creator”. From this statement, we can see that both teachers and researchers are knowledge workers. Also, Cortada indicates that among
the numerous types of knowledge workers, “teachers are the preeminent example of the knowledge worker” (Cortada, 1998, pp. xiv).

Based on the theories review above, the common feature of knowledge workers is found and the concept of “what is a knowledge worker” can be summarized as: they hold the relatively rare and valuable resource in the organization, knowledge capital and creativity, which is necessary for the organization’s value creation.

2.2.2 The needs of knowledge worker

As stated before, knowledge worker needs autonomy and autonomy can be perceived as need for individual and for work completion. Here, it is beneficial to introduce Maslow’s needs’ hierarchy theory, the basic theory in analyzing human needs, as the tool to analyze autonomy as an individual need.

![Maslow's hierarchy of needs model](Source: Mullins, 1999, pp.416)

As stated above, from the early ages till the recent times, different researches about knowledge worker have been done constantly, because the role of knowledge worker
in the organization becomes increasingly important. In the following paragraph, the importance of knowledge worker will be discussed, also as the reason why it is necessary to have a deep understanding of the needs of knowledge worker.

Through the development of age and technology, organization shifts the eye from the high position people with power to the real wealth creator, who is the knowledge worker. Knowledge workers hold the continually updating knowledge in their brains, transformed the knowledge into value, which means that “they control the levers of the wealth creation” (Horibe, 1999, pp.5). With the explanation about the knowledge production and distribution in Machlup (1962), we can find the evidence that supports the increasingly importance of knowledge development. Accompany with the knowledge progress, knowledge workers as the creators, carriers and transformers of knowledge are highly concerned (Cortada, 1998; Cortada & Woods, 2000; Khoury, 2005; Reich, 1994). These theories all emphasize the importance of knowledge worker. Bergeron (2003, pp.59) states that “knowledge worker is either the conduit or the source of the information”, which shows the importance of knowledge worker who consists intellectual capital in this information age.

The characteristics of work done by knowledge worker are described in the research of Despres and Hiltrop (1995), they consider that knowledge workers expertly utilized the intellectual knowledge with the people who also participate directly or indirectly in the situation; the relation and connection between knowledge worker and others are tight, and knowledge worker updates knowledge in a fast tempo; the role played by knowledge workers in gaining long-run profit is also mentioned. Horwitz, et al (2003, pp.29) shows their ideas about knowledge worker as “having careers which are external to an organization through years of education rather than internal through training and careers schemes”. Kinnear and Sutherland (2000) state that knowledge workers are always highly demanded due to the valuable and scarce resources owned by them, meanwhile they are reluctant to be in traditional control as they need
autonomy. Based on the researches done by Carneiro (2000), the conclusion is that education level, attitudes and values, innovativeness and creativity contribute to the characteristics of knowledge worker. Cortada and Woods (2000) indicated that once the task has been defined, knowledge workers have the autonomy and responsibility to finish the job with the decision by themselves. Also “continuous innovation, learning and teaching” (Cortada & Woods, 2000, pp.274) are necessary for their jobs.

According to the literatures above, the brief conclusion about the characteristics of knowledge worker can be summarized as: (1) Owning high level of professional knowledge. Generally, a knowledge worker has high level of education, rich knowledge capital and professional specialty. (2) Owing prominent creativity and learning capacity. The creativity is a vital feature of knowledge worker and knowledge worker is also efficient at keeping on knowledge studying and updating. (3) Performing complex brainwork. The jobs implemented by knowledge workers are complicated rather than repetitive. (4) Needing Autonomy. Knowledge worker emphasizes on self-management, they need more freedom in the work than others.

After understanding the characteristics of knowledge worker, it is sound to state that knowledge worker has the special need, compared to other workers, caused by these characteristics. So here, Maslow’s needs hierarchy is introduced to describe and illustrate the needs of knowledge worker.

### 2.3 Person-environment fit

In section 2.1.2, the cause of stress has been investigated. And the reason of this cause-and-effect relationship can be illustrated by person-environment fit theory developed by French, et al. (1982).
Before laying out the content of person-environment fit, it is favorable to emphasize the distinction between stressor and strain again to understand P-E model easily. In Miller (1983), the book reviewer states that stressor involves factors within the person, the environment and the degree of fit between them; strain is a resultant state defined as any deviation from the normal state of responses of the individual. Thus stressor can be understood as the cause and strain as the consequence of that cause. The stressor can be various kinds and they do not necessarily relay to each other, Miller (1983, pp.950) sets examples of stressor as “personality dimensions, role conflict, environment demands social support”; and strain can be categorized into several kinds which may be related with each other, like “psychological, physiological or behavioral etc.” as discussed before, and the author concludes that stressor as predictor variable causes the criterion variable, strain.

In Pervin (1967, pp.290), the author proposes the point of view that “human behavior can be understood in terms of the interaction or transactions between the individual and his environment”. And this view has been supported by the research done before by Murray (1938), Lewin (1951) and Heider (1958). Based on their works, the relationship between these two parties can be treated as the indicator, which can explain the occurrence of problem in the human behavior field. With the further development, person-environment fit approach as one of the specific models, which are concerned by some researchers (Cummings & Cooper, 1979; Edwards & Cooper, 1988; Eulberg, et al, 1988; Kahn & Byosiere, 1992) as the contributions to the study on interaction between person and environment. French, et al. (1982) assert that the idea of person-environment fit is about the interaction between environment and individual in terms of objective requirement and subjective capability. Miller (1983) shows the opinion that the fit between person and environment can reflect the condition that how person is influenced by the environment around him or her. Two divergences may occur between person and environment: (1) “motives, needs, and values of the person and the supplies present in the job environment to meet those
motives; (2) demands of the job and the abilities of the person to meet those demands” (Miller, 1983, pp.952). Edwards and Cooper (1990) briefly illustrate the person-environment fit model: if the fit is poor, the unbalance between person and the environment will lead to strain. And this unbalance can be caused by the conflict(s) between individuals’ needs, capability, their sense of worth and the provision, requirement, control comes from environment (Cooper, et al, 2001).

Based on the theories above, two different versions are described in the person-environment fit: supplies-values fit (S-V fit), which is about the environmental supplies and personal motives, goals, and values; and demands-abilities fit (D-V fit), which refers to the environmental demands and personal skills and abilities (Edwards & Cooper, 1990). According to the authors, individual perceives the relationship between him/herself and environment from different angles in the S-V and D-A fit. In the S-V fit, individual starts from his or her own perspective to judge whether the environment fit his or her value; but in the D-A fit, individual cares about whether his or her ability would satisfy the requirement of the environment.

According to Greguras and Diefendorff (2009), the understanding of person-environment fit theory is important since the interaction or match between the characteristics of individual and environment is the way to understand the needs and demands from both individual and the environmental sides, which have to be fulfilled and corresponded. Once the fit is built, which means the needs and demands are satisfied, positive influence would be formed as job satisfaction, organizational citizen behavior and organization commitment. Based on the research done by the authors, the conclusion is that “employee commitment and performance will be enhanced when employees perceive themselves to fit their work context and when they are able to satisfy their psychological needs” (Greguras & Diefendorff, 2009, pp.474).

After explaining P-E fit model as a whole in general, two factors in the model,
individual and environment, are divided apart and discussed separately according to our research. For personal side, knowledge worker autonomy is selected to be investigated; for environmental side, middle level manager is considered as the influencing factor. And the reasons for these selections will be separately presented and illuminated in each part.

2.3.1 Personal side: Knowledge worker autonomy

Here, the knowledge worker autonomy is picked as the “personal characteristic” for investigation. First, it is necessary to briefly explain what autonomy is and why we choose it.

Autonomy in the early concept of need

The concept of needs was discussed in the early age by the authors in two different standpoints. One is Hull (1943) who hold the point that the needs which come from the “organism’s primary needs like for food, water or sex” (Deci & Ryan, 2000, pp.228). The other opinion from Murray (1938) emphasizes the needs more on the psychological side rather physiological one including the needs as “self-degradation, greed and dominance” (Deci & Ryan, 2000, pp.228). Deci and Ryan (2000) define needs from these two traditional views as: “in Hullian tradition, needs as innate, organismic necessities rather than acquired motives; and in Murray tradition, needs at the psychological rather than physiological level” (Deci & Ryan, 2000, pp.229). Murray (1938 cited in Deci & Ryan, 1991) defines autonomy as a psychological need. Moreover, autonomy as an innate need consisting of “self-actualization” in Maslow’s needs hierarchy (1943), which has been illustrated in 2.2.2.
Compared to the two traditional views from Hull (1943) and Murray (1938), Deci & Ryan specified the needs in their self-determination theory as “innate psychological nutriments that are essential for ongoing psychological growth, integrity, and well-being” (Deci & Ryan, 2000, pp.229), which include autonomy. According to Deci and Ryan (2000), individual autonomy is one of three universal psychological needs (competence, relatedness and autonomy) and whether these psychological needs have been fulfilled is important for an individual. Thus, the importance of autonomy as one essential component of human needs can be understood.

After reviewing theories relating to the definition of autonomy, the one developed by Turner and Lawrence is selected. According to Turner and Lawrence (1965), autonomy is defined as the amount of freedom the worker has in carrying out assigned work activities. This definition has dual merits: first, it defines autonomy in the workplace, which fits this research setting; second, based on it, the connection between autonomy and job decision latitude can be understood easily.

**Knowledge worker autonomy in professional organization**

According to Shell (2002), the factors in the high level of Maslow needs hierarchy, like self-fulfillment, esteem and self-actualization, are the needs that the knowledge workers pursue. Shell (2002) illustrates that this point of view is more suitable for the people, who work in the managerial and professional fields. For the knowledge worker, autonomy and freedom can engender positive influence, when they are involved in the assignment, in the professional organization. Thus, it will be beneficial, if work environment can provide autonomy and freedom to the knowledge workers in their work, as they are the needs of knowledge worker. Greguras & Diefendorff (2010, pp.10) mention that “considering employees’ perspective, offering opportunities for input and sharing information across organization levels” are the ways that
organization can help employees to meet their need for autonomy. Knowledge worker will feel negatively and has to spend time and energy on pursuing their needs, if the environment is lack of that.

Shell (2002) emphasizes that, in the working environment, the autonomy is provided for knowledge workers to better utilize their competence, capabilities and skills, and autonomy is influenced by the manager and also related to the control of manager. In the organization, knowledge workers have to work under certain types of situation, which has to do with restriction and confine. It is for sure that knowledge worker cannot exert autonomy into the ultimate degree, as in the organization, the main aim is goal-oriented at organizational level, not the individual development.

Based on the analysis above, autonomy is an important need for knowledge workers and is the decisive factor in causing job-related stress, which has been discussed based on demand-control model. Thus, knowledge worker autonomy is worthy of investigation.

### 2.3.2 Environment side: Middle level manager

As stated above, knowledge worker’s autonomy is influenced by manager, but not all levels of managers are involved. In this research, “middle level manager” is defined as the direct manager influencing working environment in which knowledge worker perform activities. Thus, what middle level manager is and how he/she influence knowledge worker’s autonomy has to be investigated.
Who is middle level manager?

The roles of all levels of manager groups have been highly discussed in many literatures. Besides, their contributions to the success of the organization are also investigated in these works (Kuratko, et al., 2005; Floyd & Lane, 2000; Ireland, et al., 2002; King, et al., 2001; Fulop, L., 1991).

First, we have to distinguish different roles of managers in the organization. Stated in Kraut, et al. (2005), the data survey from 1,412 managers’ ratings statistically identified 7 major factors or groups of management tasks, which are referred by 3 different manager levels--- first level manager, middle level manager and executive. The first-level manager is involved in the task of “managing individual performance” and “instructing subordinates” (Kraut, et al., 2005, pp.123), which include the activities of supervising others. More advanced than the lowest level manager, middle manager takes charge of the linkage among groups, like “planning and allocating resources”, “coordinating interdependent groups” and “managing group performance” (Kraut, et al., 2005, pp.123-124). The executive in the company often has the capability of analyzing outside environment. Thus, the tasks of top manager encompass “monitoring the business environment”, and “representing one's staff” (Kraut, et al., 2005, pp.125).

In the article of Floyd and Lane (2000), they mention the primary and secondary roles of manager at all levels, which suggests that these three management groups have some functions in common. In the literature, primary roles of manager include ‘gathering and dissemination of information, making managers a nexus for information flows within the organization’ (Floyd & Lane, 2000, pp.157), and secondary roles about ‘sets of behaviors that support the organization's objectives but that are less closely linked to the day-to-day operational functions of a position’ (Floyd & Lane, 2000, pp.158). The authors declare that the role of managers is not
invariable and depends on the organization structure and system.

Floyd and Lane (2000) summarize the strategic roles of three different management levels in the following table.

<table>
<thead>
<tr>
<th>Title</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top manager</td>
<td>Ratifying, Directing, Recognizing</td>
</tr>
<tr>
<td>Middle manager</td>
<td>Championing, Synthesizing, Facilitating, Implementing</td>
</tr>
<tr>
<td>Operating manager</td>
<td>Experimenting, Conforming, Responding</td>
</tr>
</tbody>
</table>

Relatively, the role of the middle level manager is “focusing on effectively communicating information between firm’s two internal managerial stakeholders (top-level managers and operating-level managers). To fulfill this role, middle level managers interactively synthesize information, disseminate that information to both top- and operating-level managers and then as appropriate, champion projects that are intended to create newness” (Kuratko, et al., 2005, pp.701). Middle level manager plays the connective role in the whole managerial group inside the firm. In order to provide useful information to both top-level and operating level manager, middle level manager focuses on gathering and analyzing the information. Moreover, King, et al. (2001) states in the article that middle level managers affect firm performance, because they have the responsibility to harmonize the thoughts and the actions, which from the top managements’ idea to the execution of the operational management. Bartlett and Ghoshal (1997) redefine middle-level manager from the role of controlling to the role of supporting. They believe that middle-level manager should change “their primary role from administrative controllers to developmental coaches to the operating level manager” (Bartlett & Ghoshal, 1997, pp.95). Also they consider middle-level manager should endeavor in the organizational level as they have the coordination role in managing the resources that are essential component of organizational capabilities. Last but not least, they emphasize the importance of
middle level manager owning responsibility to audit the performance in the group he or she takes charge of, and middle level manager takes the role of connection to make the goals and implementation balance.

How does middle level manager influence knowledge worker’s autonomy?

Authority is defined by Shell (2002) as the power to decide, to command, and to perform, and could be divided into six types according to its source: authority from outside, authority from expertise and position, authority from personal attributes, line authority, staff authority, functional authority. And the terminology of “authority” implemented in this research is constrained to “line authority”, which is the formal power to act over and command all operations and functions within a particular part of the organization (Shell, 2002), because it fits the research background and can avoid unnecessary confusion and contradiction. In this case, the power of this authority owned by middle level manager is from his or her overall knowledge rather than specific knowledge over subordinates, which means, for example, the administrator in university may not have the knowledge about certain course as deep as the professor who takes charge of teaching in that course. After explain what the authority is, it is necessary to explain its transference, because authority transferring could lead to different stress condition. Thus, it is beneficial to introduce the concept of delegation as the way of transferring authority.

According to Shell (2002), delegation is the distribution of responsibility and authority within an organization, in other words, it is one kind of decentralization of decision making. One thing has to be emphasized is that “delegation” only delegates the authority without responsibility, which means responsibility stay on the level (or the individual) it was, even though the decision is made by others. In addition, Shell also classify the method of delegation into four steps: task definition, initial
communication (briefing), progress monitoring (includes follow-up support and communications), and results evaluation. Manager delegates the authority to the subordinate, when the overall workload exceeds his or her psychological or physical capability; but manager also reluctant to delegate, there are three main reason for this reluctance. First, manager may think that no one subordinate in the organization is qualified to handle the task; second, many managers try to enhance their indispensability to the enterprise by retaining authority in their hands; third, manager may not have sufficient skills for delegating.

Here, it is necessary and favorable to distinguish delegation and assignment, because these two ways of getting things done are always confused even in practice. Shell (2002) suggest one way to distinguish between assignment and delegation is to scrutinize the communication between the manager and subordinate regarding the task. If the manager communicates as “how to do it” he or she is giving an assignment rather than delegating; When the manager’s communication usually specifies “what needs to be done,” but avoids referring to any preference for method, delegation is present. This also emphasizes the essence of the delegation---delegating the authority to finish the task rather than imposing the way to do it.

As summarized by Shell (2002), delegation could be seen as one way of reducing workload and a tool to manage, and the ability and willingness to delegate authority to others is the essential requirement of being a manager, because different extents of delegation could bring different benefits or situations. On one hand, higher degree of delegation, which means greater decentralization, could foster initiative and self-reliance among subordinates, which is both beneficial for organization and individual; on the other hand, lower degree of delegation may be supported by ease of controlling and risk avoidance, because the organizational tolerance of mistakes by a subordinate may be reduced in the hard time with the increasing business competition.
In order to make the argument and analysis in this research easy to understand and avoid the unnecessary misunderstanding, it is beneficial to introduce another concept—control, as centralization of authority and opposite to delegation. Thus, in this research afterward, delegation means the high level of “delegation” described above and control represents the low level of “delegation”.

According to the way in which the power source is perceived and used by the leader in term of delegation and control, the leadership style can be classified into four basic types: autocratic, bureaucratic, laissez-faire, and democratic (Shell, 2002). And Shell describes them as following:

**Autocratic:** The autocratic leader makes all the decisions in his or her managerial field in terms of being the absolute center of authority and perceives his/herself as the source of power.

**Bureaucratic:** The bureaucratic leader considers rules and regulations as the source of power. The leader owning this kind of leadership always goes by the book and does not get personally involved in the decision-making process.

**Laissez-faire:** The laissez-faire manager is distinct among these four types, because a power source is not perceived or used. And this kind of leader does not function as an effective personal force in managing subordinates.

**Democratic:** The democratic manager believes that power is derived from the subordinate group. And manager’s authority over a subordinate group depends on the willingness of the subordinates to accept the authority of the manager.

From the description above, it is clear that the autonomy of worker is increasing from autocratic to democratic leadership style. And the point of view that knowledge
worker prefers high level of autonomy is also supported by Shell in term of leadership style. He states that Creative people usually have great difficulty with a strict autocrat because they are highly self-disciplined and tend to be frustrated by control-oriented leaders, because individual creativity is stifled and development is neglected. University faculty represents a work group that usually resists autocratic leadership. On the other hand, since professionals are usually highly self-disciplined, they tend to do their best with a minimum of interference, particularly if they maintain a lively interest in a variety of research problems. This is precisely what laissez-faire management can provide.

2.4 Research questions formulation

Before formulating research questions, we would like to briefly summarize the theories reviewed before in an analysis model as following:

![Diagram](source)

Based on the theoretical review, three research questions are proposed to be formed:

- **Knowledge worker**
  - Autonomy
  - Authority

- **Middle level manager**
  - Autonomy
  - Authority

**Fig. 4 Theories summary. (Source: Own)**
investigated and as the guides in empirical study:

- How are decision-making latitude in terms of autonomy, as the need of knowledge worker, and his/her job-related stress related?

- How is knowledge worker autonomy affected by middle level manager’s authority?

- What is the mechanism between middle level manager’s leadership and knowledge worker’s stress?
3. Methodology

The empirical basis of this research is a case study of one division in Linköping University, based on both primary and secondary data. Authors of this research hold the view that the case study can offer a holistic and deeper understanding of a specific problem---job-related stress. Even though case study is always criticized for the generalization of its result due to the sample size concerning, the purpose of this research is to explain and highlight or find a pattern rather than predict or test, which means the sample problem is not a matter in this research according to Yin (1994). Thus, the purpose of this research can be summarized as: identify the patterns in the case and implement the empirical findings to develop theory.

3.1 Organization selection

One division at Linköping University is selected as the organization been investigated. First, because university is a professional and knowledge-centered organization filled with knowledge workers, who are the target group. And the report from Linköping University, based on its employee satisfaction survey, also shows the issue about employee satisfaction. Thus, Linköping University could be a suitable target organization, because it fits the theoretical background and is worthy of investigation.

Besides, the staff of this division is easier for authors, as the researchers, to get access to. This convenience does not only contribute to the ease of gathering data and the extent of cooperation by target group, but also to the reliability and validity of the data due to the accessible direct contacts. In other words, this division at Linköping University as the selected organization contributes to both the easy research process and the fine quality of data. Thus, the investigation in this division is a fine choice concerning the feasibility and solidity of the research.
3.2 Data gathering and type of research method

First, the job satisfaction survey induced by Linköping University could be used as the secondary data. By reviewing it, the background and general situation could be understood.

In addition, the interviews with faculties in the selected division at Linköping University are the main source of primary data and all interviews have been recorded with interviewees’ acknowledgement and approval for interviewers to review and analyze. The faculties in this division are consisted by program director, professor, associate professor, assistant professor, PhD student and course assistant. So a total of six face-to-face interviews were conducted by authors with six faculties with each one of the titles listed above. Because faculties as associate professor are not available during the interview period, a young professor, who has been promoted from associated professor since two years ago, has been interviewed instead. With these six interviews, all perspectives, concerning interviewees’ positions, can be gathered and investigated. Besides, the interviews are divided into two steps. In the first step, three of them are conducted. By the first step, the general frame of empirical findings is generated. Based on this frame, the weak point of empirical study and the missing information, which is needed in analysis, can be figured out. And the task for second step is to adjust our method to get necessary information and fill the gap between what we need and what we have had. By this way of arranging interviews, the practicability and reliability of the empirical study can be enhanced. After these six interviews, an interview with one of two department heads is conducted as the factor influencing the working environment in which this division faculties are. Also, the interviews have been designed to be slightly different according to interviewees’ position in order to induce them answer the questions based on their identities.

Because the main source of data is from interview with secondary data as the
background information, the type of research could be categorized into qualitative research approach, which means that the focus of this research is on the questions characterized by "What?", "Why?" or "How?" leading to the understanding rather than measuring objectives statistically. According to Gordon and Langmaid (1988), the qualitative research is open-ended, dynamic, flexible and deep understanding, which is beneficial and fits the purpose of this research.

3.3 Sampling

Sampling means “saving work by examining the sample instead of the whole population” (Ghauri et al., 1995, pp.73). According to Becker (1998), a common criticism to sampling as a research method is that the sample might not accurately present the whole, and it is a problem with the relation of a variable's value in the sample to its value in the population.

In our case, the population is all faculties in the target division and the position is considered as the variable to categorize the population, because in the workplace the persons in different positions have the different perspectives and position can also reflect the working age, which also lead to different perspectives. And as stated above, one faculty from each category is picked as the interviewee. Gender issue is also taken into consideration, so the sample is comprised by both male and female. So, the sample in our empirical study with different perspectives is able to represent the whole. Considering the overall population is not big, totally 51 faculties in our target division, and each category is even smaller, this way of sampling is reasonable and the result of it is reliable.

3.4 Analysis

According to the research purpose stated at the beginning of this chapter, the analysis
process should be an iterative one between theory and empirical study in order to weave them together. Thus, the analysis of the qualitative data from interviews is also divided into two steps. The first step is to sort data and information into different categories as the empirical findings according to related theoretical areas. After this, the analysis of empirical findings and related theory is conducted to find out the pattern.
4. Empirical findings

Case background

Linköping University

Linköping University is a research-based university and the general situation in LiU can be summarized in the follow figure:

<table>
<thead>
<tr>
<th>LiU in Outline</th>
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<tbody>
<tr>
<td>• 27,600 undergraduate students (full time equivalents, FTE 18,910)</td>
</tr>
<tr>
<td>• 1,300 research students</td>
</tr>
<tr>
<td>• 1,476 exams basic level, 1,967 advanced level and 512 educational exams</td>
</tr>
<tr>
<td>• 157 doctorates, 44 licentiates</td>
</tr>
<tr>
<td>• 3,800 employees; 1,700 academic staff, incl. 354 full professors</td>
</tr>
<tr>
<td>• 14 multidisciplinary departments</td>
</tr>
<tr>
<td>• 140 study programmes</td>
</tr>
<tr>
<td>• 600 single-subject courses</td>
</tr>
<tr>
<td>• University since 1975</td>
</tr>
<tr>
<td>• 4 faculties</td>
</tr>
<tr>
<td>- Arts and Sciences</td>
</tr>
<tr>
<td>- Educational Sciences</td>
</tr>
<tr>
<td>- Health Sciences</td>
</tr>
<tr>
<td>- Institute of Technology</td>
</tr>
<tr>
<td>• Income total: SEK 3,202 million (education 1,528, research &amp; scientific training 1,674)</td>
</tr>
<tr>
<td>• 400 partner universities in more than 50 countries</td>
</tr>
<tr>
<td>Main Campuses:</td>
</tr>
<tr>
<td>• Linköping: Campus Valla, University Hospital Campus</td>
</tr>
<tr>
<td>• Norrköping: Campus Norrköping</td>
</tr>
</tbody>
</table>

Fig. 5 Liu in outline.(Source: Linköping University, 2011, Facts & Figures 2011, p3).
Linköping University is a special organization, one which lacks of counterparts elsewhere in Sweden and is different from the traditional academic organization which has served as a model for most European universities. Instead of being divided into separate faculties of humanities, social sciences, philosophy and so on, Linköping University encompasses four faculties: Institute of Technology, Faculty of Health Sciences, Faculty of Educational Sciences and Faculty of Arts and Sciences. By this, Linköping University spans over such diverse disciplines as social anthropology, history of literature, political science, and political economy. (Linköping University, 2011. Organization chart)

Fig. 6 Organization chart (Source: Linköping University 2011. Organization chart)

The four faculties are responsible for education and research within their own respective area. Each faculty is run by a faculty board, which are made up of representatives of various groups: university employees, teachers, students and professional interests. (Organization, Linköping University)
Target division

Our target division is a basic substance within an interdisciplinary department.
(Linköping University, 2011. Välkommen till avdelningen Företagsekonomi)

4.1 Autonomy as the need

In our target division, the faculties are made up by knowledge workers with different positions and responsibilities. And, according to their positions and responsibilities, different levels of autonomy are given to individuals. Thus, autonomy becomes an important element in the workplace for an individual and his or her work.

4.1.1 Autonomy as the individual need

The autonomous work environment is essential for employees of our target division. The level of autonomy offered in the division is valued highly by faculties and is one important reason for them to stay, even though with some rules and regulations. Autonomy is what knowledge workers pursue in their works and the measure with which they choose their jobs. The desire of autonomy is even stronger once owned by a knowledge worker and one interviewee expresses her idea that it will be quite difficult to change to a job with much constrain. The benefit of autonomy to knowledge workers is mainly about the flexibility, which offers to knowledge workers the opportunity with which they can plan their time efficiently.

“...
[making me stay here]. [...] There are always some rules and regulations in constrain, but you should have much autonomy.” Professor A, personal interview. 13th, May, 2011.

“It is the freedom and the space of creativity [which I value high in this job]. Yes [It is what I want from this job. If I change to another job, freedom or autonomy will be my measure].” Program Director, personal interview. 16th, May, 2011.

“I would say the flexibility and the autonomy [that I care about and value high in this job]. [...] the most important things would be that [...]I think especially after have worked here, it would be very hard to change to a job where I did not have the autonomy.” Assistant Professor, personal interview. 18th, May, 2011.

“I feel good about it [autonomy]. Because then I could plan my time [for my work and personal activities]. The benefit is more like you can plan your time.” Course Assistant, personal interview. 11th, May, 2011.

In the division, the autonomous atmosphere is created for faculties to perform their activities and faculties consider it favorable and important in the academia. The point of view that autonomy is a psychological need and important for knowledge workers is supported, as interviewees express the feeling that autonomy is what they pursue in the job and important element in choosing job and they also need autonomy to balance the work and private lives.

4.1.2 Autonomy as the need in the work

Negative emotion, unfavorable in working, may be produced by lack of autonomy, because it makes him or her feel be controlled even though working hard. Autonomy
is beneficial for the quality of task done by knowledge worker and all interviewees agree on that to some extent, autonomy is important for faculties in the target division. But, one interviewee considers little benefit to his work from autonomy, because his work is mainly about administration.

“I think so [that autonomy is good for the quality of my task]. [...] someone would be much more de-motivated and not feeling good, because I work hard but cannot decide by myself.” Professor A, personal interview. 13th, May, 2011.

“I think so [that autonomy is beneficial]. In science and universities, there should be a lot of autonomy. I think it is highly problematic if university loses the autonomy.” Professor B, personal interview. 23rd, May, 2011

“In academia it [autonomy] is necessary. To some extent, it is true [that knowledge worker in this university need autonomy in their work]. I think we expect that we could be able to take responsibility and to act as entrepreneurs. For sure, [that autonomy is valuable for my colleagues and my involvement in the decision making process is necessary for the task.] Program Director, personal interview. 16th, May, 2011.

“I have the autonomy I would think the quality is also better. [...] it does [contribute to my work...] autonomy does make it possible for me to create high quality. [...] that is one of the core characteristics solving academic work. [...] it is crucial, it is very important.” Assistant Professor, personal interview. 18th, May, 2011.

“[…] I think it would be the same the kind of result [even I am given more autonomy].” Course Assistant, personal interview. 11th, May, 2011.

The point of view that autonomy is beneficial to knowledge worker’s performance is
substantial, because, “[...] solves the problem with his or her intellectual capabilities” stated by Department Head, knowledge workers mainly exert their intelligence rather than physical activities. And quality of this kind of work is related with availability of freedom, as they need it in their works such as teaching and researching. But, the level of contribution and importance of autonomy to the work depends on the characteristics of the work. The more regular the work is, the less the contribution and importance of autonomy is. Some interviewees show absolute positive attitude toward autonomy in the work as a researcher; while another one considers that autonomy contributes little to the quality of his administrative work.

Besides, high level of autonomy can lead to diligence and efficiency in work. This point of view is especially applicable in academia, because knowledge worker is expected to be responsible and entrepreneurial.

4.2 The effects and generation of job-related stress

4.2.1 The effects of job-related stress

Effects on individual

The issue engendered by job-related stress is common in Linköping University, as reported “A full eight out of ten employees think they have had health problems over the past few years that they have connected with their work” (Linköping University, 2011. LiU employees seem to be more satisfied).

Faculties in our target division have encountered with some physiological and psychological symptoms. The most widespread physiological problem in our empirical study is “poor sleep”; and anxiety is the most common psychological problem encountered. And interviewees deem these symptoms are related to stress in workplace.

“My main problems are A (Headaches) and D (Poor sleep patterns). […] anxious at time when [...].” Professor B, personal interview. 23rd, May, 2011

“I have some of the [physiological] symptoms. [...] it is related to my work and sometimes due to my work. I cannot really think of [any change in my habit]; I do not really [change my habit].” Assistant Professor, personal interview. 18th, May, 2011.

“Yes, most of them [psychological symptoms].” PhD Candidate, personal interview. 14th, May, 2011

“I have problems in my lower back because I had to sit for a long time, and I did not have enough time to do exercise after I started working. So I would say the health condition is in a sense going down. [...] I am engaged with anxiety and exhaustion [...] I think the one constantly occurs is anxiety. [...] They [my behavioral habits] do not change too much.” Course Assistant, personal interview. 11th, May, 2011.

The psychological and physiological symptoms can be observed in our target division and interviewees consider the job-related stress is the origin of the health problems. Besides, one interviewee contributes his good health to his non-stressful job, as Program Director states, “[...] part of my good health can be related to the work.” This problem is not only related to individual, but also to their works, so to the whole division performance.

The job-related stress can influence individual psychological and physiological
healthiness, but does not change his or her behavioral habit, because the behavioral habit is more constrained and related to personal characteristics. For instance, Course Assistant states “[I do not smoke and drink alcohol, because] I am allergy to alcohol and have very sensitive throat to smoke.”

Effects on organization

The effects of job-related stress on organization are reflected by negative impacts on individual work.


“Sometimes [job-related stress influences the quality of my task]. And it is about the time, stress will influence your time to do this work.” Assistant Professor, personal interview. 18th, May, 2011.

“It [stress] can [influence the quality of task...]. Something has to pay for the stress.” Program Director, personal interview. 16th, May, 2011.

“[...] there is too much stress, when there is not enough time, you cannot really do anything.” PhD Candidate, personal interview. 14th, May, 2011

As stated before, stress can influence the individual healthiness, thus individual will be in a poor condition with stress to do the work. All interviewees believe that job-related stress can negatively influence the quality of task done by knowledge worker. Therefore, job-related stress is not only a personal problem, but also a problem exists in organization in term of influencing performance.
4.2.2 The generation of job-related stress

Knowledge workers have job-related stress in their daily works, no matter the difference in the working years, working experience, position that each individual has. Stress comes from the demand of the job, like different kinds of task, the levels of difficulty, time issue (deadline) and responsibility of knowledge works for their work. Besides, knowledge workers agree on that the job-related stress can be caused by the lack of control of their task and resource they need in order to act autonomously. This section focuses on these two factors causing job-related stress.

Job-related stress caused by job demands

The stress may arise from high job demands in terms of difficulty, responsibility and deadlines, especially the stressful situation lasts constantly.

“[…] if I worked very hard for a long time. It is a lot of responsibility […]. There are a lot of deadlines […]. So that’s a lot of pressure. I mean much of it, or some of it, is generated by myself. […] I could have done much more or much less if I want. […] it [job demands] is one part of that. Much of it [stress] is generated by myself, because you feel like responsible researcher; you want to live up to that, to your own standards.” Professor A, personal interview. 13th, May, 2011.

“Usually I get stressed when I am late for deadline […] if someone else told you to do something, and you cannot meet that, at least me I do not get much stressed. But if I myself said: I am going to do this. And I cannot then I get very stressed, because I made my own commitment myself, not someone else.” Professor B, personal interview. 23rd, May, 2011.
“Then if that [my plan is destroyed] repeats over and over, day after day, that can create negative stress.” Program Director, personal interview. 16th, May, 2011.

“For me I think it is quite good. I like the shifts [...] for me it is quite nice not to have a very even work load, but actually the hours can go up and down.” Assistant Professor, personal interview. 18th, May, 2011.

“You are never on schedule, you have an image of what you should been doing and where you should be at the specific date, and you always behind. That always pressure [...]” PhD Candidate, personal interview. 14th, May, 2011.

“ [...] the workload was very heavy in the first year and I worked a lot [...] I think is when there are a lot of tasks I have to complete, but I have little time. The second is the levels of difficulties in the tasks. The general trend is that the more difficult the task is, the easier you feel anxiety. [...] It is about the uncertainty.” Course Assistant, personal interview. 11th, May, 2011.

Job-related stress may arise from high job demands in terms of responsibility and deadline; and “demands” are from both outside and inside. The demands from inside has to do with the self-requirement, which will be discussed afterward. In addition, “deadline” appears repeatedly in several interviews to illustrate the stressful situation encountered. Based on this, one finding can be that ‘time’ is an important measure in job demands and significant in job-related stress generation process. Besides, ‘constancy’ of time issue should be emphasized. Both Assistant Professor and Program Director show the opinion that when time issue repeats constantly, they feel negatively.
Job-related stress caused by job decision latitude

The availability of job decision latitude is related to stress, either too much or too little.

“A great amount of autonomy has resulted in much work sometimes taken on which has increased the amount of stress. With less autonomy I guess less stress had been the consequence.” Professor A, personal interview. 13th, May, 2011

“I do think if I feel that I have to do more and more, and I cannot control it, of course I think I will get stressed.” Professor B, personal interview. 23rd, May, 2011

“Yes, of course [that the lack of job decision latitude is related to stress] [...] reduce your freedom, reduce you space to interact, then it become stress, and that can be negative.” Program Director, personal interview. 16th, May, 2011

“I think so [that lack of job decision latitude is related to the stress].” Assistant Professor, personal interview. 18th, May, 2011

“Both I would say, both beneficial to some extent, but also it, to some extent, takes a lot of energy to prioritize and always have to make your own decisions.” PhD Candidate, personal interview. 14th, May, 2011

All interviewees show that the job decision latitude is necessary as an individual need and most of them agree on that the high level of latitude contributes to the quality of their works. Once this need of autonomy cannot be fulfilled, the stress can be produced. But, the evaluations of job decision latitude are different among interviewees concerning their works (shown in 4.1.2), which means the levels of stress caused by it can be different. Besides, the opinions provided by interviewees
also directly support the point of view that the lack of latitude can result in stress.

Stress can be produced by lack of job decision latitude for knowledge worker. Because job decision latitude has to be fulfilled as the autonomy is the need for individual and also for work completion. Besides, Program Director shows that even when the job demands is high in term of the amount or responsibility, he will feel alright if he can control it, as he states: “When the stress [from high job demand] is under my control, [...] that is ok.” And high level of autonomy can lead to diligence and efficiency in work. This point of view is especially applicable in academia, because knowledge worker is expected to be responsible and entrepreneurial. As Professor A states, “yourself will be the toughest boss”.

But high level of latitude can also lead to stress sometimes. One with high latitude may try to deliver high quality of task due to the self-requirement as mentioned before, which increases the job demands and then causes the stress. As Professor A states, “I mean much of it, or some of it [stress], is generated by myself. [...] I could have done much more or much less if I want” and “many of us that work here have quite high expectations on the level of works, so it is never good enough. And that is a big contribution to why I feel stressful” stated by PhD Candidate. Besides, shown by PhD Candidate, it is detrimental for task with too much autonomy in hand, because it takes time and energy to handle the decision issue by him/herself. In other words, if a knowledge worker does not have enough capability to deal with the given autonomy, the resources will be wasting in handling the problem outside the assignment itself. Thus, too much latitude may also cause stress.
4.3 Authority---delegation and control

4.3.1 The authority spreading situation in target division

Our target division is in a relatively flat form, but certain extent of “control” still exists in order to keep all in a favorable trace. In the division, both delegation and control are implemented in different areas related to assignment. The decisions are done mainly by the forms of dialogue, communication and negotiation between Department Heads and subordinates. However, some direct orders are made by leader, if the task is urgent and suitable to be done by certain person.

“We discuss [...] and then it is a kind of natural agreement, in the end we are sort of negotiating with colleague and agree upon that [...] for pressing matters, I am sort of ordering somebody to do something. So I would say there are two ways of doing: one is negotiating and one is direct orders.” Department Head, personal interview. 25th, May, 2011.

“So I have very free choice of whatever I do, if I can deliver [...] I do recognize we have hierarchy for person. If I fulfill the criteria of performance, I should get great autonomy.” Professor A, personal interview. 13th, May, 2011.

“There is a dialogue between us. Department does not tell me what to do, it is probably the expectation of what I should do. [...] We switch information with each other [..., he is a] cooperator.” Professor B, personal interview. 23rd, May, 2011

“I myself together with the director of study [decide the assignment]. He does not guide me and he does not manage me, more that we have a dialogue. [...] in academia it is not manager’s job to tell what the staff here has to do.” Program Director, personal interview. 16th, May, 2011.
“On the research side, it is more like the discussion and collaboration. [...] When it comes to teaching, we have the managers here that they keep track on what course you teach. They do not really assign me [...] it is in discussion with middle manager here.” Assistant Professor, personal interview. 18th, May, 2011.

“[For my research,] I have these frames and I decide. It is a kind of communication between, but I should take most initiative. [For the teaching,] I do not have much to decide or participate in decision making.” PhD Candidate, personal interview. 14th, May, 2011

“It [my task] is generated originally between me and program director [...] It is like he provides the framework and I am free to fill in. So it is framework and I feel free to do it in my own way. [...] we discuss [about the task] and he is generally quite supportive and gives you space to do things.” Course Assistant, personal interview. 11th, May, 2011.

Thus, in the target division, the object of task for knowledge worker is decided by either middle level manager or the discussion between the individual and middle level manager, which means that knowledge worker is involved in his or her assignment-making process more or less. The choice between discussion and direct order depends on what kind of assignment it is. Based on statements of Assistant Professor and PhD student, they act more autonomously in researching than in teaching. Certain level of control is necessary, because it is beneficial to have someone holding the helm, as Program Director states, “We need to harmonize and to be aware we go to the same direction in the same tempo.” But individual can almost decide the way to finish the task, if he or she can deliver the finished task on time. So, the faculties in our case have certain autonomy in task assignment and quite much freedom within the task process.
4.3.2 The attitudes on authority spreading situation

Based on the perspectives of both leader and subordinates, the authority spreading situation in our target division is positive. For the leader, it is beneficial to make subordinates understand the reason behind the decision by involving subordinates into the decision-making process. Through this, the individual will accept and contribute to the task assigned, and employee satisfaction can be generated. For subordinates, the limited amount of available authority provides them not only the direction, but also the autonomy in activities, even though some negative effects with too much autonomy are felt by some subordinates.

“It is a leadership style where I think it is much more efficient to make people understand the reason why they need to do what they need to do. The benefit is such you do not need to reason afterwards [...] the individual would accept the assignment and do the best possible outcome of this. It is better that the person who has to do the assignment is allowed certain amount of freedom to solve the problem within the capability and the limits of his/her capability. [...] if you do it the way you like, then you will find pride and satisfaction in what you have been doing. The subordinates need to be involved in the decision making process, they need to understand what and why they need to do [...]. If you understand the objective, then you would also see the large picture and you would see the contribution you are making.” Department Head, personal interview. 25th, May, 2011.

“I like it [that autonomy]...I would not work so hard if I have been in more control. It is quite good to have a lot of autonomy. [...] hierarchy is necessary in University. We need some frame; we need some strategic direction.” Professor A, personal interview. 13th, May, 2011.
“If you have a lot of autonomy, you need to have some kind of vision where you going. If someone is taking away decision that is more related to specific tasks that I am performing, of course I would not be too happy about it. But most things I should do based on my own, I have so much autonomy, it is very difficult to [...].” Professor B, personal interview. 23rd, May, 2011

“I make my own agenda, my schedule [for the tasks]. If someone decides over me without informing me before and a dialogue, I should go to stop it.” Program Director, personal interview. 16th, May, 2011.

“I think it is the only type of control that can actually work in this kind of organization.” Assistant Professor, personal interview. 18th, May, 2011.

“I need someone that can to be supportive [...] it has much to do with being there to ask and answer questions and helping to prioritize than set each step of it. [I need] a coach, who is a bit wiser than me or have another kind of from another angle to look at it, to see whether I am be under the right way here.” PhD Candidate, personal interview. 14th, May, 2011.

“It is good because I could commit myself in [...] he is generally quite supportive and he gives me space to do things. It makes me feel easier to work with him.” Course Assistant, personal interview. 11th, May, 2011.

All interviewees in the target division have the feeling that they are working in an autonomous environment with a certain extent of frame and guide, and a communicational dialogue is one way for leader to control them. They also have the notice of the existence of hierarchy and strategic decision making as the macroscopic control. Besides, knowledge workers in target division prefer to work autonomously with the delegation rather than directly take the order to implement and finish. Here,
one point of view need to be emphasized again, that is too much autonomy is not beneficial. Comparing the opinions of interviewees, we find that the young faculties with less experience need more support than others. This also has to do with the individual capability.

The necessity of autonomy in processing the task has been supported in 4.1 as the need both for individual and fulfillment of task. And based on the statements above, interviewees also consider their involvement in assignment-making process is necessary, as one interviewee states: “I am not sure that he understands the real situation.” Basically, all interviewees agree on that they are in an autonomous working atmosphere with the direction as the “frame” of their works and they feel this kind of leadership style is positive and necessary.
5. Analysis

In this chapter, the theories and empirical findings will be analyzed. And our interpretation will be provided. After examination of each part, the overview of the whole pattern related to job-related stress will be presented.

5.1 Autonomy as the need

As stated in 2.3.1, the autonomy as the psychological need is in the high level of needs’ hierarchy and is pursued by knowledge workers. This point of view is supported by our empirical study. According to empirical study, autonomous working atmosphere in our target division at Linköping University is considered favorable and important in academia by faculties. And autonomy is what they pursue in their jobs and an important element in choosing the job, because they need the flexibility in planning their time to be efficient and harmonizing their works and lives. One of the interviewee states that: “it would be very hard to change to a job where I do not have the autonomy, and I think that would be very hard for me to adapt to that.”

In addition, the need for autonomy is not only originated by instinct of human being, but also by the requirement of work completion. Lack of autonomy is compromising in work, because it engenders some negative emotions. And knowledge workers need freedom to exert their intellectual capabilities in their works. Even though, according to our empirical research, the contribution and importance of autonomy to the work depends on the characteristics of the work, the necessity of autonomy for knowledge work is undoubted, because all interviewees in our case with researching work show the positive attitude about the relationship between autonomy and their works.
5.2 The generation of job-related stress

Job-related stress may arise from constant high job demands and the ‘demands’ are from both outside and inside, if self-requirement is taken into consideration. In our empirical study, we find ‘time’ is a significant issue in measuring job demands, which means that less time available will increase the difficulty of job. Besides, one of the interviewees shows that even when the job demands is high in term of the amount of the work, and he will feel alright if he can control it. He states: “When the stress [from high job demand] is under my control, […] that is ok.”

Stress can be produced by lack of job decision latitude for knowledge worker. Because job decision latitude has to be fulfilled as the autonomy is the need of individual and also of work completion. All interviewees show that the job decision latitude is necessary as an individual need and most of them agree on that the high level of latitude contributes to the quality of their work. Once this need of autonomy cannot be fulfilled, the stress will be produced. But, the evaluations of job decision latitude are different among interviewees concerning their works (shown in 4.1), which means the levels of stress caused by lack of it must be different.

Besides, job decision latitude can influence the job demands as one with high control over his or her job can deliver either high or low level of work, which is an indirect way to engender stress. In the case, job decision latitude can be divided into two forms: the latitude with “what to do” by involvement in assignment-making process and the latitude with “how to do” in term of the freedom in processing the work. With the former one, the individual is able to “control” the job demands. Because his or her opinion is considered in the assignment-making process, which means that the work assigned to him or her is modulated by him/herself. The later one, the latitude with “how to do”, can also influence job demands indirectly. As one interviewee states: “I like it and feel it is efficient.” Thus, the latitude with “how to do” can influence the
efficiency and then job demands. Because job demands are related to worker’s efficiency and high efficiency can “reduce” the level of job demands in some sense. For example, the same amount of work can be done fast with high efficiency. This point of view that job-decision latitude can influence job demands is missing in demand-control model (figure 1 in 2.1.2), where these two factors are considered independent. Because the job decision latitude can either reduce or elevate (for example due to high self-requirement) job demands, demand-control model can be revised as following figure by taking this into consideration:

![Figure 7: Job demand-control model](image)

Fig. 7 Job demand-control model (Source: Karasek, 1979, pp.288. Redesign)

And one finding with high level of latitude need to be emphasized, that is too much latitude can also lead to stress. Because it will waste resources on solving decision issue, if he or she does not have the capability to exert the autonomy he or she has.

According to analysis, the generation of stress can be shown by the following figure:

![Figure 8: The generation of job-related stress](image)

Fig. 8 The generation of job-related stress. (Source: Own)
5.3 The effects of job-related stress

The effects of job-related stress stated in 2.1.4 are partly contradicted by empirical research. Both from theoretical and practical perspectives, the psychological and physiological healthiness are influenced by strain caused by stress; but the change of behavioral habit is seldom invoked by stress in the empirical case. The reason for this is because habit is more constrained by personal characteristics and is hard to change even though with job-related stress.

And both theoretical and empirical findings agree on that the job related stress can influence the organization as a whole. Theories highlight the individual problems have the negative effects on organizational level; empirical case emphasize that stress can influence the quality of finished task.

Thus, the effects of job related stress can be summarized as the following picture:

![Diagram of job-related stress effects](source.png)

Fig. 9 The effects of job-related stress. (Source: Own) (Influence means negatively.)

One thing we can see from this picture is that stress is not only a personal problem, and it can also influence organizational performance. Thus, it is an organizational problem and worthy of attention and resource to handle.
5.4 Leadership

Leadership is presented by the way in which the power source is perceived and used by the leader in term of delegation and control (2.3.2). In our case, the decision of task object has more or less been controlled by middle level manager depending on what kind of assignment it is, but the opinion of knowledge worker, who is going to do the task, is also taken into consideration. And, the way in which knowledge worker executes the task is almost up to him or her. As concluded (in 4.3.2), all interviewees consider it is favorable in this autonomous atmosphere with the direction as the “frame” of their works, because autonomy and strategic direction are both necessary.

Thus, leadership style owned by middle level manager, in term of authority controlling and delegating, influences knowledge worker’s autonomy related to both decision-making process and task process in workplace. The following figure aims to show the effects of middle level manager’s leadership on knowledge worker.

![Fig. 10 Effects of leadership style on individual. (Source: Own)](image_url)

Based on the analysis above, some summaries can be done.

First, low autonomy owned by knowledge worker can engender job-related stress, because autonomy is a basic need of human being and a need of job fulfillment. Taking self-requirement into consideration, high autonomy can also engender stress
through elevating job demands by the involvement of knowledge worker in decision-making process and task process. Besides, too much autonomy that is over individual capability can also generate stress with decision issue. And the stress has the negative effects on both individual and organization. For individual, both physiological and psychological healthiness are decreasing; besides, the health cost and productivity cost are produced within the organization.

Second, middle level manager’s authority can influence knowledge worker autonomy by control and delegation. There are two opposite extremes---totally control and totally delegation, the level of authority transfer is between them. The closer the authority transfer point to totally control, the less autonomy knowledge worker has; the closer the authority transfer point to totally delegation, the more autonomy knowledge worker has.

Third, based on the first two summaries, middle level manager’s leadership, in term of authority transfer style, can engender job-related stress on knowledge worker with autonomy as intermedia.
6. Conclusion

This chapter summarizes the main findings of the research and responds to the research questions.

*How are decision-making latitude in term of autonomy, as the need of knowledge worker, and his/her job-related stress related?*

Low job-decision latitude delegated to knowledge worker can lead to job-related stress directly; high latitude can also produce stress indirectly by influencing job demands, if high self-requirement exists. In addition, if knowledge worker is not experienced and does not own sufficient capability, too much latitude delegated may be detrimental.

On one hand, based on our empirical study, too much autonomy will cost worker too much time on searching target, process, resource and so on. In other words, the worker with high autonomy also owns other task to make use of this high autonomy and the use of autonomy also require certain kind of ability. On the other hand, the worker with low level of autonomy will face the situation that he or she does not own the authority of controlling the process of the task, so he or she cannot exert his or her own thinking into practice, which means he or she will feel stressful some time.

*How is knowledge worker autonomy affected by middle level manager’s authority?*

Knowledge worker autonomy is presented as the involvement in the assignment-decision process and freedom in the task process. The extent of autonomy owned by knowledge worker depends on the way in which middle level manager hold the “authority”, control or delegation.

*What is mechanism between middle level manager’s leadership and knowledge
worker’s stress?

The extent of authority delegation depends on middle level manager’s leadership style. And authority transfer affects the autonomy hold in knowledge worker’s hand, which has to do with the job-related stress. Once stress is produced, it is compromising for both individual and organization.

As the final and most comprehensive question, the following figure can show the mechanism between them:
Fig. 1. Mechanism between middle level manager's leadership and knowledge worker's stress (Source: Own) (Influence means negatively)

- **Leadership style**
  - Affects
  - The level of knowledge worker's autonomy in decision-making and task process
  - The quality of individual task

- **Job-related stress**
  - Causes
  - Physiological strains
  - Psychological strains
  - Job-related stress

- **Time**
  - Influences
  - Process of decision-making and task
  - High job-decision latitude
  - Low job-decision latitude

- **Health**
  - Individual physiological health
  - Individual psychological health

- **Organizational performance**
  - Influence

- **Influence**
  - Engender
  - High job-demands
  - Low job-decision latitude
  - Time management
7. Closing Comments

This chapter deals with the reflection of the research contributions, limitations and necessity of the future study.

7.1 Reflections

In this research, the authors aim to make the effort on understanding the problem engaged by knowledge worker in term of job-related stress in the organization to investigate the unfavorable environment for knowledge worker. According to this thesis, the mechanism between knowledge worker and middle level manager, as former's environmental factor, has been analyzed and can be understood. Besides, case analysis contributes to the exploitation and exploration of theories. Thus, the results of research are not only valuable for practice, but also contribute to the researches done before in the related field.

There are some limitations in this research. First, the empirical study has been done only in one division at Linköping University, which means that to some extent the conclusions from this case study are constrained to a defined setting. But, as explained in methodology part, our aim is to investigate deeply in issues rather than to predict or test, this limitation is minimized. Besides, the result of survey done by university in the target division is not available, so the result of Linköping University as a whole has been implemented instead in this thesis as the background and general situation. Finally, in our sample, associate professor is replaced by a young professor, and this difference in their identities may lead to deviations in their opinions. But it is the most feasible and reliable way to conduct empirical study due to the time and resource limitations.
7.2 Future research

It is beneficial to test this research in other settings, like different country, different type of organization and using different research methods, to verify the universalism of the results.

Also, there are some other environmental factors, which are also valuable to be investigated rather than just middle level manager. Thus, to some extent, our work contributes to the research on the whole working environment in the organization, as a piece to the whole picture.
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Electronic Resources


# Appendix

## Interview Guide

<table>
<thead>
<tr>
<th>Date:</th>
<th>Time:</th>
<th>Organization: Linkoping University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviewee Name:</td>
<td>Position:</td>
<td>Gender:</td>
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**Thesis Background:**
- Job-related stress (during the interview, it is termed as stress for short);
- Knowledge worker autonomy;
- Leadership

1. To begin with, would you please describe your professional background, position and daily work in the organization, Linkoping University, IEI department?

2. How would you describe your general health 3 years ago and now? Did you encounter with these physiological symptoms below?
   - a. Headaches/migraine
   - b. Aches and pains
   - c. High blood pressure
   - d. Poor sleep patterns
   - e. Skin Rashes
   - f. Indigestion
   - g. Stomach ulcers
   - h. Asthma
   - i. Heart disease
   - j. Changes in appetite

3. Are you experiencing, or have you experienced any of these stress symptoms during the last three years? Did you encounter with these psychological symptoms below?
   - a. Anxiety
   - b. Depression
   - c. Exhaustion
   - d. Unable to concentrate
   - e. Frustrated
   - f. Erratic moods
   - g. Low self-esteem/confidence
   - h. Irritated
   - i. Helpless

4. Have you changed your behavioral habit or have some new habits in past three years? For example:
   - a. consumption of alcohol
   - b. consumption of tobacco
   - c. travelling for relaxing
   - d. others
(5) Do you think any of them <2-4> related to your job? (Happen in workplace? Return while returning to work?)

(6) Would you please share us one experience that you felt stress? What kind of situation was it like? Who else is involved in this stress? Would you please share us your opinion about how to release your stress?

(7) Do you think the job-related stress influence the quality of your task? How?

(8) Please estimate the change in average number of hours per week that you work over the last three years.

(9) Would you please share your opinion about what cause your working time change? How does this change happen? Who is involved in this change? What is your feeling about the change in working time?

(10) Please indicate how your total workload has changed over the last three years. What factor(s) contribute to it? For example:

Changes in conditions of service  Teaching new courses  Admin (general)
Increased student numbers  Inspection/auditing processes
Meeting targets/deadlines  Keeping up with new ed. initiatives
Need to generate income  Requirement to undertake research
Other (please specify below)

(11) How is your job assignment made? Who are involved? Are you involved and how?

(12) Have you engaged with the situations below: (about the extent of job decision latitude)

a Not able to exert control over your assignment made
b Lack of participation in decision making
c Dealing with competing demands – unable to plan working day
d Work linked to deadlines & targets
e Changes in terms & conditions without consultation
f Job changes without consultation
g Lack of funds/resources/ support to do the job
Given responsibility without the authority to take decisions

Insufficient time for scholarship and/or research

Could you please share your experience with the situation you chose?

(13) How do you feel the involvement in assignment-making process? If you lose the control over your task, how do you feel?

(14) Do you think the availability of job decision latitude is related to stress?

(15) In this job, what do you care about and value high? (In other words, what make you stay with this job?) For example, is it about the pay? The opportunities? The working autonomy? The feelings of self-worth? Fellow employees? Location? Benefits? etc.?

(16) Is it what you want from your job? Is there any other factors influencing your choice of job? What about the autonomy---job decision latitude.

(17) What is your further plan? What are you going to pursuit?

(18) What do you think about autonomy in your work? Is it beneficial or not? Why?

(19) Do you think that autonomy is valuable for other employees in IEI department?

(20) Describe one assignment in which you are highly autonomous. How do you feel about it?

Selection A

(21) What is the working relationship between you and middle level manager?

(22) How do you feel about him/her in the workplace, a supporter, supervisor or controller? Why? If you are under a totally control, how do you feel?

(23) How does he/she contribute to your assignment? (What role does he/she play in your working process?)

Selection B

(24) How do you describe the working relationship between you and subordinates?

What do you want from your subordinates and what do you provide them?

(25) How do you manage people in term of authority by control and delegation?

(26) Do you think it is beneficial, both for you and your subordinates, that if you give them more autonomy? Why? What can be produced by this “delegation”?

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Selection C

(27) How do you assign work to your subordinates? (What is controlled in your hands and what is delegated to others?)

(28) Are their opinions taken into consideration? (In assignment-making process or task processing)

(29) Why do you do it in this way? What is your feeling about it? What benefits can be generated by this kind of leadership (For you, subordinates and task)? Any negative effects?