

**Motivation requested**

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**Work motivation and the  
work environment of IT consultants**

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Department of Psychology  
2011



UNIVERSITY OF GOTHENBURG

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Printed in Sweden by Intellecta Infolog  
Gothenburg, 2011

ISSN 1101-718X  
ISRN GU/PSYK/AVH--240--SE  
ISBN 978-91-628-8228-0

For the e-published version of this thesis go to: <http://hdl.handle.net/2077/24074>

### Abstract

Wallgren, L. G. (2011). *Motivation requested - Work motivation and the work environment of IT consultants*. Department of Psychology, University of Gothenburg, Sweden.

The aim of the thesis is to examine the psychosocial work environment, with a focus on the work motivation, of Information Technology (IT) consultants. The thesis is based on five empirical studies. **Study I** (N=167) and **Study II** (N=380) are cross sectional studies, and **Study III** (N=320) is a two-wave longitudinal study. All participants in **Studies I, II and III** responded to a questionnaire on background variables, job demands, job control, motivators and perceived stress. The model used in **Studies I, II and III** is a mediational one that proposes that the effect of job demands and job control on perceived stress is indirect rather than direct. The hypothesis of motivators as a mediator was tested using full structural equation modeling (SEM) to estimate direct, indirect and total effects. The sample in **Study IV** consists of 12 IT consultants who were interviewed in order to understand what motivates IT consultants in their work environment. In **Study V**, six team leaders at an IT consultancy firm were interviewed in order to understand how team leaders perceive and construct their subordinates' motivation. The results from **Studies I, II and III** highlight the importance of the presence of high levels of motivators in reducing the perceived stress among IT consultants. High job control was significantly related to high appraisals of motivators, and motivators were negatively related to perceived stress. Additionally, the results from these three studies indicate that job demands are positively related to perceived stress. In **Studies I, II and III**, motivators were measured using antecedent conditions that may lead to motivation (e.g., recognition, achievement, variety and the possibility for growth). The results from **Study IV** confirm that variety in tasks, job autonomy, praise for a job well done, the chance to acquire new skills, and the sense of accomplishment affect IT consultants' work motivation. One of the main results from **Study V** is that managers have rather vague ideas about the motivation of their subordinates. One interpretation is that managers do not think that increasing the work motivation of their subordinates is an important part of their job.

The conclusion of this thesis is that, among IT consultants, motivators and job demands are important elements in the job stress framework. Motivation is a major component that explains organizational behavior and increases commitment and performance among employees. If a healthy work environment cannot be provided at the individual level, over time, the lack of such an environment will have implications at the organizational level. IT workers, who live at the edge of constant change, such as new technologies, require a high degree of flexibility and adaptability. In its study of contemporary IT workers, this thesis may generate important lessons for managing a major sector of the workforce of tomorrow.

*Keywords:* IT consultants; IT professional; IS professional; Knowledge workers: Conceptions of motivation; Motivation; Job demands; Job control; Stress; Structural equation modeling; Longitudinal; Narratives; Leadership; Gender differences; Transactional leadership; Transformational leadership

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# Populärvetenskaplig svensk sammanfattning

Denna avhandling handlar i första hand om den psykosociala arbetsmiljön bland IT-konsulter med fokus på arbetsmotivation. Dessutom avhandlas vad gruppcheferna i ett IT-konsultföretag tror att deras underordnade konsulter motiveras av i arbetet.

Att ha engagerade anställda är avgörande för en organisations utveckling och lönsamhet och en framgångsrik ledning av kunskapsarbetare, som till exempel IT-konsulter. Detta kräver en förståelse och kunskap om vad som motiverar de anställda i arbetet. Arbetsmiljön för IT-konsulter är ofta komplex och stressig, kanske mer än för andra uthyrningskonsulter, vilket är ett skäl till att studera psykosociala förhållanden såsom arbetets egenskaper, arbetsmotivation och upplevd stress. Eftersom IT-konsulter befinner sig i framkanten av ständiga förändringar, till exempel nya arbetsmetoder och ny teknik, krävs det en hög grad av flexibilitet och anpassningsförmåga. Resultatet i denna avhandling kan ge viktiga lärdomar när det gäller att leda framtida IT arbetskraft.

Arbetsmiljön i ett IT-konsultbolags kärnverksamhet skiljer sig från andra tjänstemannaföretag. IT-konsulter måste ständigt ta itu med icke-standardiserade problem och detta arbete sker ofta i samarbete med kunderna som samtidigt också ställer fortlöpande nya krav på konsulten. Inom IT-konsultbranschen, där det förväntas ett mycket högt arbetsengagemang och en hög prestationsförmåga, är det inte ovanligt med en arbetstid på mer än 50-60 timmar i veckan (Alvesson & Robertson, 2006). IT-konsulter anlitas ofta för att lösa svåra, ofta unika, problem och dessutom måste man som IT-konsult ha starka sociala och kommunikativa färdigheter. I en svensk studie bland IT-konsulter (Eriksson Hallberg, 2005) framkom att arbetsmotivationen kan spela en särskiljande roll huruvida de anställda ska bli "utbrända" eller inte i arbetet (emotionell utmattnings, depersonalisation och brist på personlig prestation i arbetet). Det finns flera teoretiska eller konceptuella modeller som omfattar den psykosociala arbetsmiljön inklusive motivation och stress. Krav i arbetet och möjligheten att kontrollera sitt eget arbete har visat sig vara två viktiga faktorer för att förutsäga stress (t.ex. de Jonge, van Breukelen, Landeweerd & Nijhuis, 1999).

Denna avhandling består av två delar: I den första delen presenteras tidigare forskning inom psykosocial arbetsmiljö, arbetsmotivation, arbetstillfredsställelse, ledarskap och motivation. I den andra delen presenteras de fem empiriska studier som rör arbetets karakteristika, motivation, stress, IT-konsulternas egen syn på vad som motiverar dem och slutligen konsultchefernas berättelser om vad de tror motiverar sina underordnade IT-konsulter i arbetet.

Syftet med denna avhandling är som sagt att undersöka den psykosociala arbetsmiljön för IT-konsulter med fokus på arbetsmotivation. Avhandlingen bygger på fem empiriska studier; **Studie I** (N = 167) och **Studie II** (N = 380) är tvärsnittsstudier och **Studie III** (N = 320) är en studie med upprepad mätning vid två tillfällen. Alla deltagare i **Studie I, II** och **III** har svarat på en enkät om bakgrundsvariabler, krav i arbetet, jobb kontroll, arbetsmotivation och upplevd stress. Den modell som användes i **Studie I, II** och **III** innehåller en medierande variabel i vilken hypotesen är att effekten av krav och egenkontroll på upplevd stress är indirekt snarare än direkt och att motivationsfaktorer har en medierande effekt mellan å ena sidan krav och egenkontroll och å andra sidan upplevd stress. Hypotesen om mediering testades statistiskt genom att använda en strukturell ekvationsmodell (SEM) för att uppskatta direkta, indirekta och totala effekter. I **Studie IV** intervjuades 12 IT-konsulter i syfte att förstå vad som motiverar IT-konsulter i deras arbetsmiljö. I **Studie V** intervjuades sex teamledare på ett IT-konsultföretag för att få en uppfattning om vad teamledarna tror att deras underordnade motiveras av i arbetet.

De viktigaste resultaten och bidragen i denna avhandling är flera. För det första - eftersom det har publicerats mycket lite forskning om arbetsvillkoren, arbetsmotivation och hälsa för IT-konsulter, kan denna avhandling öka vår kunskap om IT-konsulters psykosociala arbetsmiljö. Dessutom med de empiriska testerna och diskussion av begreppet "motivation", kan denna avhandling kanske bringa mer klarhet i definitionen av arbetsmotivation.

Resultaten från **Studierna I, II** och **III** visar att undersökningsmodellen är konsistent, vilket talar till förmån för ett orsakssamband. Delar av undersökningsmodellen inkluderar dessutom en upprepad mätning vid två tillfällen. I

dess tre kvantitativa studier användes en liknande strukturell ekvationsmodell med liknande strukturella komponenter; liknande enkäter användes, som till exempel begreppet "motivationsfaktorer". Resultaten pekar på vikten av motivationsfaktorer (t.ex. ansvar, erkännande, prestation, möjligheten till utveckling) bland IT-konsulter med avseende på beteende och upplevd stress i arbetet. Om arbetsmiljön inte är motiverande och hälsosam på individnivå, kommer denna arbetsmiljö med tiden även att få konsekvenser på en organisatorisk nivå (Hansen et al., 2009; Maslach, 1998). Dessutom kan det vara det rimligt att dra slutsatsen att krav och egenkontroll i arbetet är viktiga faktorer för att förklara uppkomsten av upplevd stress bland IT-konsulter. Dessutom, resultatet i **Studie IV** visar att ömsesidig lojalitet är en betydande motivationsfaktor som återspeglar det relationella förhållandet eftersom IT-konsulter kan vara lojala mot sin egen konsultfirma, kundföretaget, uppdrag/projekt hos kunden eller sina kolleger. Dessutom påverkar IT-konsultens skapande av sin identitet dennes arbetsinsatser och samverkan med kundföretaget.

Eftersom chefer har ett betydande inflytande på arbetsmiljön finns det en möjlighet och incitament för ledningen av ett IT-konsultföretag att öka de anställda konsulternas motivation. Detta speciella område rörande arbetsmotivation, konsultchefers uppfattning om sina underordnades motivation och "kunskapen om den andres motivation", har inte studerats grundligt tidigare i andra studier. En slutsats från resultatet i **Studie V** är att IT-gruppledarna inte prioriterar att aktivt arbeta med de underordnades motivation, detta till stor del på grund av strukturella hinder i organisationen. Detta resultat går stick i stäv med annan forskning som finner att ledningen bör prioritera de anställdas motivation för att säkerställa deras välbefinnande och förbättra organisationens resultat. Samtliga ledare i **Studie V** anser att strukturen på organisationen, med dess hämmande regler och förfaranden, begränsar autonomi, egenkontrollen och ambitionen hos IT-konsulterna.

Personalomsättningen av IT-konsulter kan innebära höga kostnader för konsultbolag. Dels för att rekrytera en ersättare, men framförallt för att ersätta den potentiella förlusten av tyst kunskap (Kaplan & Lerouge, 2007). Därför är kunskapen och förståelsen för de anställdas arbetsmotivation avgörande för att framgångsrikt

kunna leda kunskapsintensiva organisationer (Amar, 2004). En god förståelse av de anställdas arbetsmotivation omfattar två delar. Den första delen avser vad den anställde motiveras av i arbetet. En slutsats i denna studie är bland annat att motivationen ur flera aspekter beror på samspelet mellan konsulterna och kundföretagen. IT-konsulterna, som ofta arbetar utanför sitt eget företag och kontor vid olika arbetsplatser hos kunder, utvecklar dels en lojalitet till kunden och dels en lojalitet till den egna konsultfirman. Den andra delen avser ledningens sätt att arbeta med de anställdas motivation. När en personalstyrka är komplex, fragmenterad och fysiskt avlägsen, är det av stor vikt att som ledare lära sig att motivera medlemmarna i en organisation (Jackson & Carter, 1995). Ledningen av kunskapsarbetare är ostrukturerat med förändringsbara projektgrupper med en låg möjlighet till övervakning och kontroll (Alvesson, 1995).

En tolkning av resultaten i denna avhandling är således, att inre och yttre motivation för IT-konsulter är ganska lika som för andra yrkesgrupper, medan interaktiva motivationsfaktorer – normer, ömsesidighet och identitet – är mer specifika och viktiga för denna yrkesgrupp. IT-konsulter har anslutit sig till normer som stödjer konsultfirman och dess verksamhet. Därför följer de arbetsplatsens standarder av organisatoriska beteende. Dessutom är ömsesidighet kärnan i det funktionella utbytesförhållandet mellan IT-konsulter och deras företag. I utbyte får de förmåner såsom självständigt arbete, som motiverar dem att arbeta hårt och bra. Dessutom, i termer av en kollektiv social identitet, spelar IT-konsulternas sociala interaktion, en viktig roll i deras motivation i arbetet. Motivationen bland IT-konsulter påverkas av den sociala ramen för arbetsgrupp – teamledare, sina kolleger och diverse andra i organisationen – som kommunicerar normer och kultur.

Slutligen, IT-konsulter lever i framkanten av förändringar, såsom ny teknik och nya arbetssätt, och de kräver en hög grad av flexibilitet och anpassningsförmåga. En studie av dagens IT-konsulter kan generera viktiga lärdomar för att leda morgondagens arbetskraft.

## Acknowledgements

First of all I wish to express my greatest gratitude to my supervisor and co-writer Professor Jan Johanson Hanse for all his support and guidance. I also want to thank Professor Marcus Selart for valuable feedback after his review of the thesis manuscript.

I am very grateful to Professor Magnus Sverke for a valuable discussion and his feedback on my licentiate thesis.

Thank you to Docent Svante Leijon and Kerstin Malm Andersson for your support as co-writer on paper V and I will also thank Professor Anders Biel for valuable feedback on paper II.

All the members of the workgroup of work and organizational psychology at the department of psychology, University of Gothenburg, thank you for co-work, your continuous advice, discussions and comments. I thank Dr. Pernilla Larsman for her valuable comments on the use of the SEM technique. I would also like to thank Ann Backlund for her administrative support during the PhD program.

Thank you also to the companies who allowed me to do the studies and all participants of the studies. This work would not been possible without you! I am also very grateful to Marcia Halvorsen and Dr. Jeremy Ray for their help with the English language.

Finally I thank my friend Cecilia Wallgren who inspired me to start the long journey of studies, my colleague and friend Maria Bolin who helped me to preserve the motivation to research and my beloved Charlotte Blomquist who have supported me and accepted all pile of articles and literature during this period.

Göteborg, februari 2011

*Lars Göran Wallgren*



## List of papers

This thesis is based on the following papers, which will be referred to in the text by their Roman numerals:

- I. Wallgren, L.G., & Johansson Hanse, J. (2007). Job characteristics, motivators and stress among information technology consultants: A structural equation modelling approach. *International Journal of Industrial Ergonomics*, 37, 51-59.
- II. Wallgren, L.G., & Johansson Hanse, J. (2010). The impact of job characteristics and motivators on perceived stress among information technology (IT) consultants. *The Ergonomics Open Journal*, 3, 25-31.
- III. Wallgren, L.G., & Johansson Hanse, J. (Submitted for publication). A prospective study of the impact of job characteristics and motivators on perceived stress among information technology (IT) consultants.
- IV. Wallgren, L.G., & Johansson Hanse, J. (2011). The motivation of information technology consultants: the struggle with social dimensions and identity. *Human Factors and Ergonomics in Manufacturing & Service Industries*, 21, 000-000.
- V. Wallgren, L.G., Leijon, S., & Malm Andersson, K. (2011). IT managers' narratives on subordinates' motivation at work – a case study. *International Journal of Technology and Human Interaction*, 7(3), 000-000.



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# Introduction

This thesis primarily concerns the psychosocial work environment among Information Technology (IT) consultants with a focus on their work motivation. Secondly, the thesis deals with how IT consultancy first-line managers construct their subordinates' motivation.

The commitment of knowledge workers, such as IT consultants, is critical to organizational success. Successful management of knowledge workers requires understanding subordinates' work motivation. The work environment of the IT consultant is complex and stressful, perhaps more so than that of other for-hire consultants (Tsai, Compeau & Haggerty, 2007). This description of the IT consultants' work motivates this examination of the relationship between their job characteristics, motivators and perceived stress. Thus, since IT workers live at the edge of constant change, such as new technologies, they require a high degree of flexibility and adaptability. In its study of contemporary IT workers, this thesis may generate important lessons for managing a major sector of the workforce of tomorrow.

It is generally believed that knowledge-intensive firms represent the future of business and working life. According to the European Foundation (2005), knowledge-intensive business services represent one of the fastest growing areas of the European economy. In Sweden, for example, revenues for knowledge-intensive companies increased steadily in the early 2000s (Swedish Industrial Development Fund, 2005). According to Statistics Sweden's forecast (2008), in 2006 there were 175 000 more people employed in the private service sector (e.g., IT consultants) than in 1990. Furthermore, private service sector employment is predicted to increase by approximately 120 000 people between 2006 and 2030, mainly in knowledge- and work-intensive services.

Knowledge-intensive firms typically employ personnel who are highly qualified, offer products and services that are complex and/or non-standard, and engage in significant product, market and personnel development activities (Kärreman, Sveningsson & Alvesson, 2002). The work of IT consultancies, which may be categorised as knowledge-intensive work, has also grown considerably during the last decade and will probably expand in the next decade (Ivergård, 2000). IT consultants are the pioneers in the new technology in the private and public sectors (Caplen Jensen, Netterström & Borg, 2003). The entire IT branch uses the latest technology and employs the most technologically qualified workers (e.g., programmers, systems architects, IT solutions advisors, etc.) (Davies & Mathieu, 2005). There is increased interest in such knowledge-intensive firms because of their rapid growth rate and their importance in the economy. Therefore, when researchers study the phenomenon of knowledge management, they prefer studying knowledge-intensive firms (Alvesson, 2004).

For a definition of an IT consultancy firm, we may turn to Alvesson (2004) who defines it as a professional service company in which marketing, production and development often are performed by the same individuals. This work requires a certain combinations of skills and a clear interest in client orientation, sometimes at the expense of internal activities and long-term development.

While there is an increasing interest in knowledge-intensive firms, there are relatively few studies that relate the working conditions of IT consultants to factors in their psychosocial work environment, such as job demands, job control, motivation and stress. The work environment in the core business of an IT consultancy firm differs considerably from that of other white-collar professional firms. IT consultants must constantly deal with non-standard problems that originate with the customer (Docherty & Huzzard, 2003). This work is often performed in co-operation with customers who make intense

demands on the knowledge workers. Moreover, in the IT consultancy sector, where very high work commitment and high performance are expected, working time, which is non-regulated, is often more than 50-60 hours a week (Alvesson & Robertson, 2006). Furthermore, compared to other professionals, IT consultants are often required to solve more difficult, often unique, problems. In addition, IT consultants must have strong social and communication skills. Hence, IT consultants' work is filled with conflicting demands and, as a result, may be very stressful. In fact, a study of IT consultants in Sweden (Eriksson Hallberg, 2005) finds that motivational orientation may play a differentiating role in their occupational burnout (emotional exhaustion, depersonalization and a lack of personal accomplishment at work). In addition, Eriksson Hallberg's study indicates that motivational frameworks may increase our understanding of the association between involvement in work and negative outcomes, such as burnout. There are also several theoretical or conceptual models that deal with the association of the psychosocial work environment with motivation and stress. Job demands and job control have been shown to predict stress (e.g., De Jonge, van Breukelen, Landeweerd & Nijhuis, 1999).

This thesis consists of two parts: Part One frames the relevant theoretical and empirical research by presenting previous research on psychosocial work environments, work motivation, job satisfaction, leadership and motivation, narrative and the work environment of IT consultants. Part Two presents the five empirical studies that concern job characteristics, motivators, stress, the IT consultants' own view of their motivation, and finally IT managers' narratives of their subordinates' motivation at work.

# **The importance of study the work environment of IT consultants**

IT consultants work in a highly competitive, global market where customers demand well-educated and motivated consultants who are willing to continually renew their skills and to adapt to changes quickly, always under the threat of professional obsolescence. For these reasons, the work motivation of the IT consultant is worthy of individual study (Tsai et al., 2007).

Although IT consultants are employees of the consultancy firm, they work at the customer company, under the immediate control of the customer. In a sense, they work for two bosses. They work long hours, according to tight schedules, often in crisis mode, where the projects and the technology may change quickly (D'Mello & Sahay, 2007). Their work environment is one of voracious user demand and deadlines with the constant threat of technical obsolescence (Ivancevich, Napier & Wetherbe, 1983). Adding to the pressure is the requirement that their relationship with the customer must remain strong. Therefore the IT consultant must also nurture the customer relationship in order to acquire future business (Maister, 1997).

In the wider research on work motivation, not specifically related to IT consultants, a common conclusion is that a sound theoretical understanding of motivation is essential if managers are to manage employees effectively in organizations (e.g., Lawson & Shen, 1998). As Amar (2004) concludes, understanding work motivation is crucial to the successful management of knowledge work organizations.



## **The work environment of the IT Consultants**

The mission of professional firms, such as legal, accounting and engineering firms, is to deliver outstanding client services and to provide fulfilling careers and professional satisfaction for their employees (Maister, 1997). In carrying out this mission, growing firms must also be sufficiently profitable so that they can attract and reward good employees. The management of a professional firm thus involves a complex balancing act between the demands of the client marketplace, the realities of the staff marketplace and the firm's economic goals. The IT consultancy firm is a fairly recent entrant in the world of such professional firms.

It is interesting to investigate the IT sector, not only because of the interrelationship of IT with the organization, but more specifically because of IT's relationship to the psychosocial work environment. In general, job demands and individual job control are the central concepts in the understanding of relationships among stressful experiences, behavior and health (Karasek & Theorell, 1990; Melin & Lundberg, 1997; Pousette & Johansson Hanse, 2002).

IT consultants are different from other IT professionals and from workers in other occupations. A great deal of IT research assumes that IT professionals are a homogenous group, but there are at least two major sub-occupations in the profession – IT professionals who are employees of their organizations and IT consultants who are employed by consultancy firms and mainly work at other organizations.

To the best of the author's knowledge, little research has been published about the work conditions, work motivation and health of IT consultants (Lim & Teo, 1999). Nevertheless, there are a few studies of interest in this area. For example, Eriksson Hallberg's (2005) study of IT consultants (N=521) in Sweden implies that motivational orientation may play a differentiating role

in the burnout process. The study also suggests that motivational frameworks increase our understanding of the association between involvement in work and negative outcomes, such as burnout. Earlier research indicates that there are some inappropriate working conditions in the psychosocial work environment in the IT sector (e.g., Aziz, 2004; Lim & Teo, 1999; Moore, 2000). In a study of a group of IT consultants in the USA, Brown (2002) finds that a job that provides autonomy, challenge, feedback and the ability to use skills was important in promoting job satisfaction and work motivation. However, this study has some limitations because of its small sample size (N=21) and its low response rate (49 per cent).

Furthermore, although it is not easy to find studies of the psychosocial work environment among IT consultants, in a study with similar work conditions, Aronsson, Gustafsson and Dallner (2002) find that temporary employees have less decision influence than permanent employees and that health differences favoured the permanent employees. In a study of 21 500 European employees by the European Foundation for the Improvement of Living and Working Conditions, Merllié and Paoli (2001) find that the psychosocial work environment is related to the employment status of the employee. Those employees with temporary agency contracts have far less control over their workplace compared with those who have open-ended contracts or fixed-term contracts. Moreover, according to an explanation from Aronsson and colleagues (Aronsson et al., 2002), this lack of control, in the sense of security, is a central aspect of the conditions of employment, while control, in the sense of uncertainty, can be arranged within a centre-periphery context. A temporary employee such as an IT consultant is remotely located from the core in terms of control over the workplace and work conditions. Hence, for the IT consultant, this work situation is unattractive because, according to Ahuja, Chudoba, Kacmar, McKnight and George (2007), autonomy is particularly important to IT consultants. They like to work

independently, without having to seek supervisory approval for their activities.

In the IT sector, certain characteristics of the IT consultancy firm distinguish it from other firms of professionals. For example, the IT consultancy firm is a professional service company in which marketing, production and development are often performed by the same persons. As Alvesson (2004) concludes, this situation requires employees to have a certain combination of disparate skills as well as a strong client orientation that sometimes results in the neglect of internal activities and of long-term development.

So-called knowledge workplaces can be quite bureaucratic with their centralized managements, clear hierarchies and formalized rules structures (e.g., Alvesson, 2006; Kärreman et al., 2002). Several researchers (e.g., Alvesson, 2006; Kärreman et al., 2002) have studied the so-called knowledge workplaces and have found that these modern workplaces can be quite bureaucratic with their centralised managements, clear hierarchies and formalised rules structures. Work freedom is often restricted by such rules as well as by the standards for performance. Alvesson (2006) identifies a duality in management where the general rhetoric deals with coaching, visions, and so forth, but the reality of everyday work is control and supervision. In short, organizational structure in the knowledge workplace tends to be characterized by Theory X values despite its rhetoric of supporting Theory Y values (McGregor, 1960). Managers with the right values – Theory Y – are not necessarily free to build the structures they want (Giddens, 1991).

IT consultants work in a particularly stressful occupation as the result of voracious user demands, tight deadlines, newly acquired skills, the constant threat of obsolescence and client insistence on change (Ivancevich et al., 1983). IT consultancy firms also operate in a global and highly competitive market where motivated employees must continuously devote themselves to

skills development. Since the consultants in an IT consultancy firm form the core of sustainable and profitable operations, it is crucial that they have a good working environment (i.e., context matters). Various researchers have studied the characteristics of these working environments in order to learn what IT consultants prefer/require. According to Ahuja et al. (2007), autonomy may be particularly important to IT consultants who like to work independently without having to seek approval for their activities from remotely-located supervisors who may not understand the circumstances and problems of particular customers. However, although consultants are employees of the IT consultancy firm, they are mainly assigned to customers where their work consists of projects with firm deadlines that are determined by these customers who decide how and when the work is performed. Usually, there is little or no time to rest between jobs for the IT consultants since their projects often overlap, and a new task may start before the last one is completed (Caplen Jensen et al., 2003). Nowadays employees need to be responsive to customers and be willing to change, learn and acquire new information rapidly (Arnold & Randall, 2010). Adding to this pressure is the requirement that the relationship to the customer must remain strong; therefore the IT consultant must also nurture the customer relationship in order to acquire future business (Maister, 1997).

The IT consultant also seeks a work environment where his/her specialized knowledge and expert technical skills are valued. As Pyöriä (2005) writes, for most knowledge workers, the real substance of work is not the product but the process. According to Kelloway and Barling (2000), employees in organizations are likely to engage in knowledge work to the extent that they have the ability, motivation and opportunity to do so. It is discursively interpreted that the task of well-managed firms engaged in knowledge work is to provide a work environment supportive of such employees. Such an environment is characterized by specific characteristics

related to transformational leadership, job design, social interaction and culture (Kelloway & Barling, 2000).

According to Alvesson (2004), interesting and stimulating work tasks, which lead to learning and development, are most important in the context of knowledge-intensive firms. However, IT consultants, no matter how creative and well-educated, often have to compete with their customers' personnel (Imparato & Harari, 1994). Nor is there an abundance of really challenging positions available to IT consultants, the so-called dream projects. While IT consultants derive job satisfaction from developing new knowledge areas, the market generally demands utilisation of already existing knowledge. As a result, customers are seldom willing to pay for the self-fulfillment of the consultant supplier (Alvesson, 2004).

Additionally, IT consultants, even while working off-site at various customer workplaces, also develop a loyalty to their own consultancy firm and its ways of working. While this situation creates divided loyalty tension for IT consultants, it also places unusual demands on the IT consultancy firm's managers. They are charged with the supervision, motivation and evaluation of the IT consultants who feel they are employees of the consultancy firm (and actually are) even though they work elsewhere. In a study of IT consultants, Ahuja et al. (2007) find that the managers at one consultancy firm had little knowledge of their consultants' work performance.

As noted previously, consultancy firms in the IT sector represent the future of business and working life. Compared to the work environment of traditional white-collar workers, the IT consultants' work environment differs significantly. The work context in the IT environment is characterized by globalization, intensive client interaction, rapid technical and work method change, a flexible labour market and a special business logic, among other elements. Therefore, in order to increase our knowledge on industrial

organizations, it is important to study the psychosocial work environment of this occupation.

## **Work motivation and job satisfaction**

### **History**

The question of what is significant for an individual's job satisfaction has been one of the most important research areas in organizational psychology since the 1920s. A review of the literature on job satisfaction from the 1920s to the present shows that there have been many changes in research approach and in research hypotheses. In the 1920s the research concentrated on physical work conditions such as lighting, ventilation and noise level; the individual's work motivation received relatively little attention. At the beginning of the 1930s to the beginning of the 1940s, the interest in the social aspects of the work environment increased. In these years the "human relations" – movement began, with Elton Mayo (1946) as one of its main spokesmen. His role in the famous Hawthorne Experiment at the Western Electric Company, which was conducted from 1927 to 1932, was of crucial importance in the development of the so-called "Human Relations" school of research that subsequently emerged. Since the start of the "Human Relations" research in the early 1930s, several theories about motivation have been presented (e.g., Adams, 1965; Alderfer, 1972; Atkinson, 1964; Hackman & Oldham, 1980; Herzberg, Mausner & Snyderman, 1959; Locke & Latham, 1990a; Maccoby, 1989; Maehr & Braskamp, 1986; Maslow, 1970; McClelland, 1987; McGregor, 1960; Scheuer, 1999; Skinner, 1953; Vroom, 1964).

Among these motivation theories, a distinction is frequently made between content theories and process theories of motivation. The content

theories focus on what motivates human behavior at work. Examples are Alderfer's (1972) ERG theory of motivation, Herzberg et al.'s (1959) two-factor theory of motivation and McClelland's (1987) theory of work. The process theories focus on how the process of motivation influences behavior. Examples of process theories are expectancy theory, proposed by Vroom (1964), and goal-setting theory, proposed by Locke and Latham (1990a).

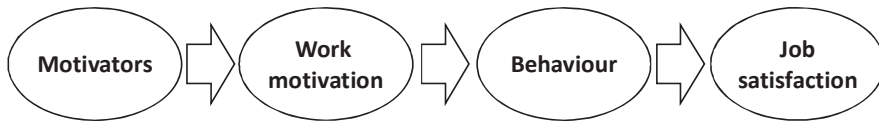
The content theorists are concerned with identifying and prioritizing human needs/drives/incentives and the goals that people seek in order to be satisfied (Luthans, 1981). The process theorists, on the other hand, are more concerned with identifying and inter-relating motivation variables. However, most of these theorists comment on both content and process although they vary considerably in their relative emphasis (Arnold et al., 2005).

## **The concept of work motivation and job satisfaction**

Despite the fact that work motivation has a central role in the research, in reality this concept is difficult to quantify or precisely define (Schou, 1991). Schou maintains that work motivation is a hypothetical concept that, among other things, serves as a collective name for a large part of the research on what drives, governs and maintains work performance. According to Schou, the research often uses deputy measures of work motivation (e.g., job satisfaction) or examines certain variables that are thought to influence, or be influenced by, work motivation, even though it is not possible to verify the impact of these factors. A study by Locke and Latham (2004) concludes that the definition of motivation and job satisfaction needs to be addressed in the field of work motivation. According to Locke and Latham, the term motivation is not used clearly. For instance, in the organizational behavior literature and in the industrial/organizational psychology literature, the term motivation may refer either to job satisfaction or to the motivation to perform.

Locke and Latham suggest that a good research project would be to develop a glossary of valid definitions of the work motivation concept. However, for those who have tried to define motivation, the process has been complicated. Jewell (1998) argues that motivation is a hypothetical construct that cannot be seen. Mitchell (1997) also believes that motivation is not directly observable and therefore must be tested as a part of a larger theory in which antecedent conditions are linked to behavioral actions.

The following three sections deal more specifically with Motivators, Work Motivation and Job Satisfaction. I define “Motivators” (recognition, achievement, the variety of the work, and the possibility for growth) as antecedent conditions that presumably result in Motivation (e.g., Hackman & Oldham, 1974; Herzberg et al., 1959; Wegge, van Dick, Fisher, Weckling & Moltzen, 2006). Furthermore, Motivation leads to behaviour that in turn provides Job Satisfaction (e.g., Alvesson, 1993) (see Figure 1).



*Figure 1.* Motivators as antecedent conditions

## **Motivators**

A main concept in this thesis is the concept of motivation. As discussed in the previous section, motivation, as a hypothetical construct, cannot be seen, is difficult to quantify or precisely define (Jewell, 1998; Mitchell, 1997; Schou, 1991). Moreover, motivation, since it is not directly observable, represents a complex set of closely coupled and reciprocal relationships among action processes. Therefore, motivation must be inferred from analysis



of person and situation antecedents and their consequences (Kanfer, Chen & Pritchard, 2008).

In Herzberg's two-factor theory (Herzberg et al., 1959) "motivators" ("satisfiers") include factors such as recognition, achievement, advancement (growth) and the work itself (variety). According to Herzberg (1968), intrinsic job factors such as the work itself (motivators) contribute to job satisfaction – factors that provide satisfaction are the motivators (Lawless, 1979). Herzberg and his colleagues state that the factors that increase the employees's job satisfaction are called "satisfiers" and the factors that lead to an unhappy employee are called "dissatisfiers". Ultimately, Herzberg and colleagues label the "satisfiers" as "motivators":

“Since it is in the approach sense that the term motivation is most commonly used, we designate the job factors as the ‘motivators’, as opposed to the extra-job factors, which we have labeled the factors of hygiene.” (Herzberg et al., 1959, p. 114)

According to Herzberg et al. (1959), there is a connection between motivators and the individual's job satisfaction. In comparison, the job characteristics theory (Hackman & Oldham, 1980) suggests that greater satisfaction is experienced from work when the task possesses, for example, variety and feedback. The two constructs “variety” and “feedback” as described by Hackman and Oldham have much in common with Herzberg's motivators of “the work itself” and “recognition”.

Finally, it would be easy to label the latent variable “motivators” as either work motivation or job satisfaction, but the purpose of this research is not to measure either work motivation or job satisfaction. The main reason is that motivation is not directly observable and represents a complex set of closely coupled and reciprocal relationships among action processes that must

be inferred from the analysis of person and situation antecedents and their consequences (Kanfer et al., 2008).

In summary, Herzberg (1968) defined factors in the job context (“motivators”) involved in producing motivation and job satisfaction. Hackman and Oldham (1974) measured motivation potential score (“MPS”) – i.e., the degree to which jobs are designed in order to enhance work motivation and job satisfaction. In comparison with these authors, we define antecedent conditions that presumably lead to motivation (e.g., Hackman & Oldham, 1974; Herzberg et al., 1959; Wegge et al., 2006) – as “motivators”.

## **Work motivation**

The approaches to building motivation theories begin with a definition of the term “motivation”. Vroom (1964) defines motivation as “... a process governing choice made by persons or lower organisms among alternative forms of voluntary activity.” (p. 6). According to Atkinson (1964), motivation is “... the contemporary (immediate) influence on direction, vigor, and persistence of action.” (p. 2). Atkinson and Birch (1978) identify motivation as “... the observable stream of behaviour that constitutes the daily life of an individual.” (p. 27). McClelland (1987) refers to the definition of a motive as a “... recurrent concern for a goal state based on a natural incentive - a concern that energizes, orients, and selects behaviour.” (p. 590).

From a theoretical standpoint, are there any common denominators among recent motivation theories? In a study about the future of work motivation theories, Steers, Mowday and Shapiro (2004) examine existing motivation theories and find that all are principally concerned with factors that energize, channel and sustain human behavior over time. Mitchell (1997) finds that the theories of work motivation developed in the 1930s and 1940s focused on the “... psychological processes involved with the arousal,

direction, intensity, and persistence of voluntary actions that are goal directed.” (p. 60). Furthermore, Mitchell refines the motivation definition in three ways. First, he believes motivation is a hypothetical construct that is not observable. Second, motivation is personal and individual – how we direct our behavior and what we have in common is the process. Third, motivation is goal-directed, and almost all theorists use goals as a central part of their theory.

Focusing on individual behavior in organizations, Campbell and Pritchard conclude:

“...motivation has to do with a set of independent/dependent variable relationships that explain the direction, amplitude, and persistence of an individual’s behaviour, holding constant the effects of aptitude, skill, and understanding of the task, and the constraints operating in the environment.” (Campbell & Pritchard, 1976, p. 65)

Pinder defines motivation as:

“Work motivation is a set of energetic forces that originate both within as well as beyond an individual’s being, to initiate work-related behaviour, and to determine its form, direction, intensity, and duration.” (Pinder, 1984, p. 8)

The motivation theory that perhaps deals most with the individual’s behavior in organizations is the “two-factor theory of motivation” (Herzberg et al., 1959). However, the description of this theory provides us with a good example of the confusion that arises in the definition of the terms “work motivation” and “job satisfaction”. In their book, *The Motivation to Work*, Herzberg et al. begin with a description of the book’s purpose and contents:

“This is a book about people at work. More precisely, it is about their attitudes toward their jobs.” (Herzberg et al., 1959, p.3)

The book continues with a description of the three ways Herzberg and colleagues measured job attitudes. First, they measured how the worker expresses his “job satisfaction”. Second, they considered scaled inventories of morale or job attitudes. Third, a psychologist observed the behavior of workers. In their study, Herzberg and colleagues specified job attitude factors in which the respondent identified a source of his good or bad feelings about a job. Factors that increase the individual’s job satisfaction are called “satisfiers,” and factors that lead to an unhappy employee are called “dissatisfiers”.

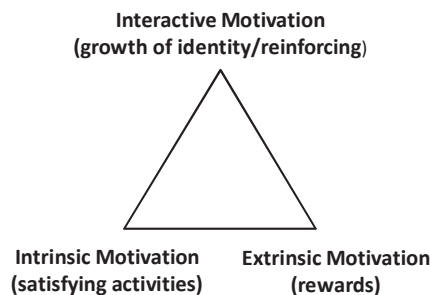
Similarly, Robbins (1997) defines motivation as the willingness to do something, which is conditioned by this action’s ability to satisfy the needs of the individual. Instead of trying to define motivation itself, Herzberg et al. (1959) try to define antecedent conditions that presumably lead to motivation. The distinction between motivators and hygiene factors in the Herzberg theory provides us with a clear and straightforward way of thinking about employee motivation and of predicting the likely impact of various planned changes on motivation (Hackman & Oldham, 1980).

Furthermore, there are researchers who think that goals affect motivation (e.g., Elliot & Harackiewicz, 1994; Klein, Alge, Wesson & Hollenbeck, 1999; Locke & Latham, 1990a; Steele-Johnson, Beauregard, Hoover & Schmidt, 2000). Locke and Latham (1990a) argue that the setting of specific goals can increase motivation. According to Locke and Latham (2002), goals may affect the motivation to act in four ways: 1) goals direct concentration and effort toward goal-relevant activities and away from goal-irrelevant activities; 2) goals have a stimulating function (high goals result in

greater effort than low goals); 3) goals affect determination (when participants are allowed to control the time they spend on a task, difficult goals prolong their effort); and 4) goals affect action indirectly by leading to the arousal, discovery, and/or use of task-relevant knowledge and strategies.

The reasons for adopting and/or sustaining certain behaviors over time differ from person to person. Individual motivation depends on each person's attitudes, needs and goals. Yet it is possible to distinguish between two general types of motivation applicable to everyone – intrinsic motivation and extrinsic motivation. Intrinsic motivation describes the will to act because of the appeal of the action itself; extrinsic motivation describes the will to act because the action leads to a specific outcome (Deci & Ryan, 2000).

Motivation theory primarily deals with the distinction between intrinsic and extrinsic work motivation and the individual's behavior in an organization. However, in addition to intrinsic motivation and extrinsic motivation, Alvesson and Kärreman (2007) describe a third category of motivation – interactive motivation (see Figure 2), which refers to the social dimension of individual motivation in relation to social groups and norms. In this motivation category, the important issues for consideration are values, ideals, morals, cultural norms and identity.



*Figure 2.* The motivation triangle (my translation, adopted from Alvesson & Kärreman, 2007)

## *Intrinsic Motivation*

Pinder (2008, p. 81), who argues that an employee's workplace behavior may be intrinsically motivated, defines the outcome of such motivation as "behavior that is performed for its own sake rather than for the purpose of acquiring any material or social rewards". However, Pinder (2008) also argues that even with his/her intrinsic motivation to perform tasks competently, for such motivation to work satisfactorily, an employee must feel free of pressures, such as rewards and reprimands. For example, the unequal power distribution in the supervisor-subordinate work relationship may affect the subordinate's intrinsic motivation. When supervisor feedback involves a comparison of the subordinate's competence with other employees, the effect on intrinsic motivation may be either positive or negative, depending on whether the feedback is favourable or unfavourable (Harackiewicz & Larson, 1986). When an employee interprets supervisor feedback as controlling (i.e., a certain outcome is expected), the intrinsic motivation to perform the task well may be undermined (Deci & Ryan, 1980). Gagné and Deci (2005) argue that to maintain intrinsic motivation, the employee must feel that he/she has some autonomy, outside the control of other forces.

In their two-factor "Motivation-Hygiene Theory", Herzberg et al. (1959) distinguish between the factors that provide job satisfaction ('motivators') and those that provide no job satisfaction but whose absence causes job dissatisfaction ('hygiene factors'). According to this theory, intrinsic motivators are achievements, recognition, the work itself, responsibility, advancement and the possibility for personal growth. Furthermore, as Hackman and Oldham (1980) observe, in their Job Characteristics Model (JCM), job satisfaction increases and work performance improves with enriched and complex work. Their model, which

is based on five core job characteristics (skill variety, task identity, task significance, autonomy, and job feedback) that affect intrinsic work motivation, agrees with Arnold and Randall's (2010) claim that the core job characteristics are associated with work motivation.

### *Extrinsic Motivation*

Extrinsic motivation is required, according to Gagné and Deci (2005), when an employee finds his/her tasks uninteresting. In such instances, the employee's performance is conditioned by his/her perception of the relationship between behavior and a desired consequence, such as tangible rewards (Vroom, 1964; Porter & Lawler, 1968). Hence, performance is influenced by the expectation of rewards apart from the satisfaction of a job well done. Eisenberger, Rhoades and Cameron (1999) argue there is a positive relationship between employees' performance-reward expectancy and work activity interest. When extrinsic rewards are offered, it is thought that employees are motivated to work harder to earn those rewards (Mahaney & Lederer, 2006).

The motivators in Herzberg's (Herzberg et al., 1959) duality theory are associated with intrinsic motivation, and the hygiene factors are associated with extrinsic motivation. O'Driscoll and Randall (1999) argue that while extrinsic rewards may predict job involvement and affective commitment, the effect is weaker than that of intrinsic rewards. In short, intrinsic rewards are more important for work commitment (e.g., job involvement) while extrinsic rewards are more important for organization commitment (e.g., company loyalty).

Csikszentmihalyi and Rathunde (1993) claim that theories of motivation generally neglect the phenomenology of the person to whom motivation is attributed. Instead of explaining motivation in functional terms of outcomes, they argue that motivation theories should focus on how a person feels when

taking action. If an action is rewarding in itself, people are likely to continue with it. If people say that they “want to do it” – this behavior is intrinsically motivated. If the action is unrewarding, people either stop or continue only because they “have to do it” – this behavior is extrinsically motivated.

### *Interactive Motivation*

Alvesson and Kärreman (2007) describe three interactive motivation factors – norms, reciprocity and identity. These factors have a social dimension since they reflect the relationship between the employee and others in the work environment. Various researchers have examined these motivational factors individually.

*Norms.* According to Wiener (1982), a norm is a commitment to support an organization and its activities by following workplace standards of organizational behavior. Examples of such workplace norms are that one should work efficiently and that one should be social with colleagues. The employee’s motivation for adhering to such norms is his/her need to feel “normal.” Over fifty years ago, Selznick (1957) pointed to the effect of organizational norms on employee motivation when he observed that organizations with clearly defined cultures succeed in employing people with a high degree of company loyalty and commitment. Bakker and Demerouti (2008) argue that the job resources at the level of interpersonal and social relations (e.g., team climate) influence employee motivation and predict important organizational outcomes. Morrison and Robinson (1997) argue that people follow norms from an inner sense of commitment.

*Reciprocity.* Reciprocity for mutual benefit is the core of the functional exchange relationship between employees and their companies (Alvesson & Kärreman, 2007). In exchange for benefits such as work autonomy,



employees are motivated to work hard and efficiently. A long-standing reciprocal relationship between a company and its employees affects job performance positively because of this implicit psychological contract that influences employees' work attitudes (Raja, Johns & Ntalianis, 2004). According to Schein (1978), this psychological contract implies a mutual acceptance of the relationship between an employer and an employee that specifies the effort the employee agrees to make in exchange for acceptable working conditions. In the framework of a psychological contract, reciprocity and mutuality describe the extent to which the employee and the employer agree on their interpretations of promises and commitments each party has made and accepted (Dabos & Rousseau, 2004).

*Identity.* Identity, which relates to “who you are” (i.e., your self-concept), is the third element in interactive motivation. Certain identities presuppose a kind of subjectivity that directs the individual's thoughts, feelings and values. For example, the identity of a consultant is a person who will work as long and as hard as necessary. Moreover, in a context where people, in accordance with the self-categorization theory, express themselves in terms of a collective social identity, their social interaction plays an important role in their work motivation (Haslam, Powell & Turner, 2000). Social identity in general is associated with the motivation to achieve group goals and to work for the group's interests; however, the motivation in social identity may also derive from the internalization of organizational norms and the emotional connection to the organization (van Knippenberg, 2000). Moreover, motivation is influenced by the social context of the work group, the supervisor, the subordinates and various others in the organization who communicate its norms and culture (Black & Porter, 2000).

A conclusion is that most motivation theories and definitions describe a chain of causal relationships beginning with needs/goals and ending with satisfaction. As a definition, this causal chain can be defined as a process. Katzell and Thompson (1990) define work motivation as a broad construct pertaining to the conditions and processes that account for the arousal, direction, magnitude and maintenance of effort in a person's job. Motivation is a resource-allocation process that determines how energy is used to satisfy needs (Pritchard & Payne, 2003).

## **Job satisfaction**

Using these different definitions of motivation in prior section, a conclusion is that job satisfaction is an end product of the motivation process. What, then, does job satisfaction mean? There is a close link between work motivation and job satisfaction (Foster, 2000), where a high level of motivation will have psychological consequences, such as high job satisfaction. Sometimes work motivation has been defined as job satisfaction (Sjöberg, 2007) or as work satisfaction (Salancik & Pfeffer, 1977). Nevertheless, work motivation and job/work satisfaction are separate constructs, and, as Alvesson (1993) states, motivation leads to behaviour that in turn provides satisfaction. In line with this Prichard and Ashwood (2008) argue that motivation allocate energy in order to act with the aim of maximize the satisfaction of needs.

Locke (1976) defines job satisfaction as a pleasurable or positive emotional state, which is a result of the appraisal of one's job or job experiences. Based on their review of published works, Cranny, Smith and Stone (1992) find that there is a general agreement that job satisfaction is an employee's affective reaction to a job that results from his/her comparison of actual outcomes with those that are expected. Brief (1998) notes that job

satisfaction is a product of the events and conditions that people experience in their jobs. But job satisfaction is not only a positive feeling. As Herzberg et al. (1959) found, factors in work can lead to dissatisfied employees. Spector (1997) defines job satisfaction as the extent to which people like (experience satisfaction) or dislike (experience dissatisfaction) their jobs. According to Brief (1998): “Job satisfaction is an internal state that is expressed by affectively and/or cognitively evaluating an experienced job with some degree of favour or disfavour.” (p. 86). Currivan (1999), basing his thinking on earlier definitions, conceptualizes job satisfaction as the degree of positive emotions an employee has toward a work role. As job satisfaction is considered closely related to work motivation, and since motivational complexity is of great interest to companies, management must then take the well-being of personnel into consideration (Alvesson, 1993).

To fulfill needs and achieve satisfaction in the motivation process, something must be done. According to Alvesson (1993), motivation leads to performance that in turn provides satisfaction. However, satisfaction depends on the outcome of the performance. According to Vroom (1964), job satisfaction is the result of the operation of both situation and personality; people’s reports about satisfaction in their jobs are directly related to the rewarding outcomes their jobs provide such as, for example, pay, variety in stimulation, consideration from their supervisors, and a high probability of promotion. Pritchard and Payne (2003) believe that because people anticipate the amount of needs satisfaction that will occur when outcomes are achieved, it is the anticipated satisfaction that determines behavior. Sims, Fineman and Gabriel (1993) also relate motivation to acting, which initiates and directs behavior that leads to satisfaction. Ryan and Deci (2000) define two performance (of an activity) categories of motivations that lead to satisfaction: Extrinsic and intrinsic motivation. Spector (1997) comes close to this definition, possibly in a confusing way, when he describes two kinds of

satisfaction: Extrinsic and intrinsic satisfaction. The term “extrinsic satisfaction” concerns aspects of work, such as pay, that have little to do with the job task itself. The term “intrinsic satisfaction” refers to the nature of the job tasks themselves and how people feel about the work they do.

Katzell and Thompson (1990) define work motivation as a “broad construct pertaining to the conditions and processes that account for the arousal, direction, magnitude, and maintenance of effort in a person’s job” (p. 144). Job satisfaction, on the other hand, is a positive emotional state resulting from the appraisal of one’s job. Job satisfaction is a result of employees’ perception of how well their job provides those things that are viewed as important. In defining job satisfaction, Smith, Kendall & Hulin (1969) state it is “the feelings a worker has about his job” (p. 6), and Spector (1997) states it is “how people feel about their jobs and different aspects of their jobs” (p. 2). Job satisfaction could be measured on a global scale (“general satisfaction”) or by using various aspects (facets) of the job (“specific facet satisfaction”) (Iaffaldano & Muchinsky, 1985; Spector, 1997). Common job satisfaction facets are communication, co-workers, supervision, pay, job conditions, security, et cetera (Spector, 1997). In short, these facets refer to rather different characteristics of the job and of the work environment. However, if you only are interested in the single facet “satisfaction with the co-workers”, this facet should not be seen as “job satisfaction” but instead as a measure of social support (Uchino, Cacioppo & Kiecolt-Glaser, 1996).

According to the job characteristics theory (Hackman & Oldham, 1980), general satisfaction can be measured by asking questions such as “Generally speaking, how satisfied are you with your job?” (p. 89). In this procedure, a facet-free scale is used. Hackman and Oldham have three constructs regarding “affective outcomes”. One construct is “Internal work motivation” that is measured by respondents’ responses to statements such as “I feel great sense of personal satisfaction when I do this job well”. This is the

operational definition of motivation is in terms of satisfaction. This definition can also be found in articles published in the 21<sup>st</sup> century. Richer, Blanchard and Vallerand (2002) use the Blais Work Motivation Inventory where one intrinsic motivation item is constructed by asking for a response to the statement: “The satisfaction I experience while I try to meet the challenge of my work”.

However, according to Howard and Frink (1996), job satisfaction is generally recognized as a multifaceted construct that includes both intrinsic and extrinsic job elements. Their interpretation is that extrinsically motivated activities lead to extrinsic satisfaction, and intrinsically motivated activities lead to intrinsic satisfaction.

## **Leadership and motivation**

According to Lawson and Shen (1998), a sound theoretical understanding of motivation can substantially add to the essential knowledge people need if they are to manage effectively in organizations. Organizational psychology raises important questions about how such managerial knowledge can be acquired and used. Such questions are highly relevant today, particularly with the increasing number of knowledge workers whose commitment is critical to organizational success. For instance, a key question in organizations is: “What are the best ways to motivate people – intrinsic (satisfaction and flow experiences), extrinsic (money and other benefits), or a mix of these rewards systems?” (Lawson & Shen, 1998, p. 12). Moreover, according to Steers et al. (2004), managers consider motivation as an integral part of the performance equation at all levels. I concur with this observation, but there are still many unanswered questions on how managers perceive

employee motivation and how they integrate such motivation in action vis-à-vis the different performance equations.

In considering managers' conception of motivation, it is important to address the relationship between the individual employee and the context of his/her work organization. Since managers have substantial influence, as well as power, in the work organization, it is important to involve and educate managers on the subject of employee motivation.

## **Managers' conception of motivation**

What conceptions do managers actually have of motivation? In asking this question, McGregor (1960) proposed that its answer was fundamental to understanding how managers should lead/control their employees. His study of the question led to his well-known dichotomy between Theory X and Theory Y behavior models in which a distinction is made between two assumptions about employee motivation that are assumed to influence a manager's practice. McGregor's dichotomy, which has strongly influenced motivation theory and practice, suggests a narrative approach can be useful in understanding human motivation as managers make assumptions about employee attitudes and behavior.

While employee motivation has generally been an important research area, to the best of my knowledge McGregor's question has been the subject of only limited research. **Study V** in this thesis addresses his classic question from a narrative perspective as it tries to identify, describe and understand managers' attitudes about their subordinates' motivation. In this kind of increasingly common, professional workplace, where consultants tend to work autonomously, managers must depend in great degree on their subordinates' self-motivation. Additionally, in such IT consultancy firms, the consultants' workplaces are often physically separated from management – a

situation which increases managers' need to trust their subordinates. According to Jackson and Carter (1995), it is essential to understand an organization's members as a complex, fragmented and physically remote workforce.

However, very little research has been published pertaining to the psychosocial work environment and health of IT consultants: their work conditions, motivation and stress. The subject of managers' conception of, and interest in, this well-being is still less investigated. However, several previous studies are interesting in that they relate tangentially to this subject. In studying management's attitude toward promoting job satisfaction and stimulating motivation, Alvesson notes:

“As job satisfaction is considered to be closely related to work motivation and since motivational complexity is of great interest to the management they must, indirectly at least, take into consideration the well-being of the personnel” (Alvesson, 1993, p. 71)

Moreover, recent research shows that work motivation may predict job performance (e.g., Locke & Latham, 2002; Pritchard & Payne, 2003). Steers et al. (2004) argue that in the new economy, as well as in the more traditional manufacturing and service areas, highly motivated employees are frequently cited as a hallmark of competitive advantage.

Steers et al. (2004) reviewed work motivation research historically, identifying the 1950s to the 1970s as the golden age of motivation theories. They also identified the emergence of a new interest in such research at the beginning of the 21<sup>st</sup> century due to the changing conditions of work in the so-called new economy. Motivation theories in the golden age were developed according to the stable work conditions of the time where work conditions fitted human motivation, particularly as exemplified by the Volvo automobile

factories in Kalmar and Uddevalla, Sweden (Engström, Johansson, Jonsson & Medbo, 1995; Engström, Johansson & Medbo, 1992). Contemporary work conditions are built more on flexibility, including the capability for continuous change.

Furthermore, Scheuer (1999) states that dynamic motivation is dependent on human expectations, the existing norms of the workplace, an individual's private economy and his/her dominant work tasks. Motivation varies also from one situation to another and requires special analysis to identify mechanisms that stimulate or suppress work motivation.

How then do managers deal with this complexity? On the one hand, they are forced to live with existing organizational structures, and, on the other hand, they are required to work with management models based on possibly overly idealistic values. My belief is that managers' continual struggle to live with and understand this complexity is a part of their identity formation. It is not uncommon for professional identities to rest more on ideals than on realistic models of the complexities and ambiguities of daily work (Leijon & Söderbom, 2005).

General leadership models suggest that accurate knowledge of motivation is essential to managerial conceptions. In knowledge work, this conclusion is especially important. Knowledge workers are best motivated by interesting tasks and growth possibilities, as classic motivational models propose. The motivation of subordinates is thus seen as a necessity for managers; however, the research on managers in action casts doubt on how important this is in monitoring subordinates' work. This thesis seeks to illuminate this subject further.



## **Psychosocial work environment**

In order to achieve harmony between the individual and the demands of the organization, the organization must have a good psychosocial work environment that the employees also experience as good (Rubenowitz, 2004). Failing that, the employees will be insufficiently committed to their work.

### **The impact of work environment**

One of the first models used in the psychosocial research to explain illnesses related to working conditions was the Person-Environment Fit (PE fit) model that was developed at the beginning of the 1970s (French, Caplan & Harrison, 1982). This model concerns the interaction between the individual and his/her environment where it is assumed strain arises when there is a gap between personal motives (e.g., involvement, economic benefit and self-development) and work feedback, or between job demands (e.g., work load and complexity) and the individual's ability to deal with these requirements. Recent research shows that such strain increases when there is a misfit in the interaction between people and their work environment. The individual's perceived well-being is maximized when the actual job characteristics are aligned with his/her preferences (Yang, Che & Spector, 2008).

Probably the two most well-known models in psychosocial work environment research are Karasek's (1979) Job Strain Model and Siegrist's (1996) Effort-Reward Imbalance Model. These models are described next.

In studying the individual's working situation, Karasek (1979) examines the combination of two factors – the requirements imposed on the individual (job demands) and the individual's possibilities for coping with these requirements (job control). In his study, Karasek creates a two-

dimensional Job Strain Model to describe the effect of job demands and job control on psychological well-being and physical health. Injurious stress in working life, he concludes, is developed mainly through the combination of high job demands and low job control. A low level of job control means that employees cannot influence important parts of their tasks and work environment – they lack space for independent decision-making or for taking initiatives

Siegrist's (1996) Effort-Reward Imbalance Model focuses on the imbalance between high work efforts exerted and a low level of work rewards received. Work demands can be measured in terms of external demands as well as in terms of the individual's own demands for monetary compensation and appreciation. A reward relates to the individual's control of his/her status, are for example, through the possibility of job security or promotion. Siegrist believes a severe and prolonged imbalance, resulting from small rewards for large efforts, triggers stress in employees that can lead to cardiovascular disease.

## **Stress**

Stress research has been carried out in four disciplines: medicine, sociology, management and psychology (Cummings & Cooper, 1998). According to Le Fevre, Matheny and Kolt (2003), since each of these disciplines has its own paradigm and research approach, it is difficult to compare different stress theories and research models. Stress as a concept is used both as a cause and as the outcome and negative consequences of an overexertion. "Stress, in addition to being itself, was also the cause of itself, and the result of itself" Selye (1951, p. 4).

There is no commonly accepted and "objective" definition of stress. One reason is that stress is not a static state that is easily established using an

objective measurement or method. Stress does not permit itself to be caught by the individual's objective perception (Währborg, 2002).

Nevertheless, there are many definitions of the concept "stress". These definitions fall into three categories. The first category focuses on stress as situation- or environment-related stimuli in which the stressors affect the individual. The second category focuses on the mental and physical responses resulting from the stressors. The third category takes an interactive approach, often called "Stressor-strain," which combines the first two categories by defining stress as both the stressors and the responses (Beehr & Franz, 1987; Cox, 1978; Lazarus, 1999; Le Blanc, de Jonge & Schaufeli, 2000; Le Fevre, et al., 2003; Selye, 1993).

### *Stress in the work environment*

The concept of "psychosocial work environment" is widely associated with health in the workplace, and numerous studies have established associations between psychosocial factors at work and (poor) health. According to Cox, Griffiths and Rial-Gonzales (2000), one such factor is stress, which is a negative psychological condition that originates in the dynamic interaction between the individual and his/her work environment.

Job stress is a major issue among employees in advanced industrial societies and is recognized as a major health challenge, both for employees and for employers (International Labour Organization, 1986, 1992). Although there was a decrease in work-related disorders (both physical and mental) from 2003 to 2010 in Sweden, approximately 16 % of the knowledge workers in Sweden reported stress and other types of mental strain during the last 12 months measured (Swedish Work Environment Authority, 2010)

Stress often results from high job demands in relation to the worker's abilities, frustrated aspirations and dissatisfaction with valued goals (Kalimo & Mejman, 1987). A basic hypothesis in stress theory is that psychosocial

stressors in the work environment, such as quantitative overload, qualitative underload, lack of control and lack of social support, and the interaction of such conditions, may have harmful effects on an individual's health and well-being (Karasek & Theorell, 1990; Levi, Frankenhaeuser & Gardell, 1986; Melin & Lundberg, 1997). Those effects may be specific to an industry, and they may be considerable in certain occupational groups, such as assembly line workers and service workers (Karasek & Theorell, 1990). However, there is little knowledge about these effects in the knowledge-worker industry, such as information technology (IT).

A number of research studies have been conducted on workplace burnout. One study shows that burnout consists of several core dimensions including emotional exhaustion and cynicism (disengagement) (Bakker, Demerouti & Verbeke, 2004). Another study argues that burnout may be averted on several levels – individual, organizational and societal (Hansen, Sverke & Näswall, 2009). A meta-analytic examination by Lee and Ashforth (1996) shows that job demands (e.g., role conflict, workload) and job resources (e.g., autonomy) are significantly associated with emotional exhaustion and cynicism. A recent study among health care organizations by Hansen et al. (2009) reveals that job demands are significantly associated with higher burnout (emotional exhaustion, cynicism). According to Hallsten (2005), high burnout measurement (BM), as well as high emotional exhaustion, may be isolated in two high-strain subgroups – “burnout” and “wornout” groups. High BM scores, coupled with low performance-based self-esteem, are indicators of wornout rather than burnout. For Hallsten, “burnout” signifies a psychological crisis resulting from the relationship between the individual's self-esteem and his/her performance, while “wornout” is more descriptive of worry about a general situation or with boredom associated with some job or activity.

Different job demands can result in many different stress reactions. However, according to Le Blanc et al. (2000), the relationship between job demands and stress reactions is mediated by personal resources such as stress handling ability (coping) and situation-related resources such as social support. Stress reactions and well-being are affected by work motivation and job satisfaction (e.g., Faragher, Cass & Cooper, 2005; Lyubomirsky, 2001; Richer et al., 2002).

Concerning work-related stress, it is generally agreed that stress is the result of an imbalance between perceived job requirements and individuals' resources (e.g., Lazarus & Folkman, 1984; Mackay, Cousins, Kelly, Lee & McCaig, 2004; Palmer 1989). According to Jones and Kinman (2001), in stress measurements, stressors (e.g., job demands) should be separated operationally from mental strain.

As noted above, repeated and prolonged reactions to stress can be harmful to people's health and general well-being. In order to combat stress in the workplace, its causes must be identified and then reduced. This requires measuring stress in the workplace based on individual experiences.

Three different techniques are used to measure stress: self-reporting, behavior measurements and medical/biological measurements (Fleming & Baum, 1987; Quick & Quick, 1984). According to Greller and Parsons (1988), self-reporting of stress is a useful method of measurement. Kjellberg and Wadman (2002, 2007) argue that self-reporting can be used to measure negative psychological states. At the end of the 1970s Mackay et al. (1978) developed a questionnaire with adjectives to measure emotional states in two dimensions they called "stress" and "arousal". Kjellberg and Iwanowski (1989), whose ambition was to use adjectives that could be used in studies of stress, developed their Stress-Energy Model. According to Kjellberg and Wadman (2002, 2007), the stress and energy dimensions are similar to Karasek's Job Strain Model (1979) in its study of the psychosocial

environment from a stress perspective. Kjellberg and Wadman (2002, 2007) argue there is a hypothetical similarity between the stress-energy dimensions and the job strain dimensions. In line with this thinking, Hansen, Blangsted, Hansen, Sjøgaard and Sjøgaard (2010) argue that there is an association between perceived job demands-control and perceived stress-energy.

### *The leadership impact on employees well-being and health*

The purposes of studying organizational behavior are to explain, predict and control human behavior. According to Lawson and Shen (1998), researchers who study and work with organizations are mostly interested in enhancing organizational performance by adopting a management perspective, with a focus on the human relations perspective, which stresses the well-being and development of individuals.

Furthermore, it is only with the effort of its employees that an organization can achieve results and reach its goals. However, Lawson and Shen (1998) think a leader cannot lead, in most cases, without power. Yukl (1998) defines power “as an agent’s potential influence over the attitudes and behaviour of one or more designated target persons” (p. 177). According to Nyberg, Bernin and Theorell (2005), a manager can be described as the possessor of the tools needed to create and change the structure and culture within an organization.

One early empirical finding on the impact of manager behavior and employee well-being comes from Gavin and Kelley’s (1978) study. They identify a strong association between employees’ self-reports of well-being and their perceptions of the consideration shown them by their supervisors as well as the amount of performance feedback from their supervisors. In their management study, Gilbreath and Benson (2004) find that managerial behavior is closely associated with the psychological well-being of their employees. Schein (1992) states that middle- and low-level managers have the most influence on their subordinates’ stress level and health.

In a literature study aimed at generating ideas on possible ways to investigate the relationship between leadership and subordinates' health in organisations in the European Union countries, Nyberg et al. (2005) find that leadership styles and behaviors explain only a limited amount of the variance in different outcome measures of health. However, Nyberg and colleagues claim that the relationship between leadership and employee health may be indirect since managers may affect job demands, job control and social support. These factors are known to have a strong impact on employee health (Karasek & Theorell, 1990; Levi et al., 1986; Melin & Lundberg, 1997).

Theorell, Emdad, Arnetz and Weingarten (2001) studied a leadership education program dealing with psychosocial work environment's impact on the work conditions and well-being. Their research was conducted during one year at a Swedish insurance company. Their results show that the level of the stress hormone cortisone decreased among the employees associated with managers who had participated in a leadership education program. There was no similar result among the employees in the control group who were associated with managers who had not participated in the program. The first group also reported that the opportunities to influence their job performance had increased.

According to Lawson and Shen (1998), a sound knowledge of organizational psychology theory (e.g., motivation models) can substantially enhance the level of critical skills needed to function effectively in organizations. This is consistent with Robbins (1997) who thinks management should put a lot of effort into promoting employee job satisfaction because of the correlation between satisfaction and productivity in terms of employee well-being, absenteeism and turnover. Employee turnover, in particular, is a problem for the IT workforce. Many studies have found that the lack of work challenge is an important factor in predicting turnover (Korunka, Hoonakker & Carayon, 2008). Role ambiguity, role conflict job

autonomy and perceived workload are other important factors that are useful in predicting turnover (Ghapanchi & Aurum, 2010). It's therefore important that management provide employees with challenging work that allows them to develop their skills and to increase their knowledge. According to Major, Davis, Germano, Fletcher, Sances-Hucles, and Mann (2007) it is not unusual for IT workers to have better technical knowledge than who supervise them. The need for constant technical skill updating is addressed experientially through employee involvement.

In an extensive review of the empirical literature concerning workers' safety and health, Sauter, Murphy and Hurrell (1990) identify a model of workplace stress that the National Institute for Occupational Safety and Health (NIOSH) in the USA developed. The stressors in the NIOSH model are: Workload and Work Pace, Job Content and Control, Work Scheduling, Role Ambiguity (conflict, ambiguity, and inter-role conflict), Career Concern, and Interpersonal Relations. Kelloway, Sivanthan, Francis and Barling (2004) use this model in a literature review to evaluate how poor leadership may be the root cause of workplace stressors. Their conclusion is that poor leadership has such a pervasive effect on stress and well-being in the workplace that it creates a work environment with lack of controls and heavy workloads.

## **The contribution of this thesis**

IT consultants make up a major sub-category in the IT occupational group. The work environment of the IT consultant is especially complex and stressful, perhaps more so than that of other for-hire consultants. IT consultants work in a highly competitive, global market where customers demand well-educated and highly motivated employees who are willing to continually renew their skills and adapt rapidly to change. In a recent paper,



Oldham and Hackman (2010) [co-inventors of the Job Characteristics Model that is presented in Hackman and Oldham, 1980)] explain that when they did the research on job design, the organizational work was generally organized as a linked set of specific jobs. These jobs were analyzed, defined and performed by individuals who worked mostly independently of one another. Moreover, Oldham and Hackman remark that nowadays there are fundamental changes in the relationships among people at work. Today, individuals may work in temporary teams whose membership changes as work requirements change and/or they may work in projects in which other members come from different organizations – for example, suppliers and clients. Oldham and Hackman give many examples of “new factors” in the “new” work environment that have existed for several years in the IT consultants’ work environment. However, little research has been published about the work conditions, work motivation and health of IT consultants (Lim & Teo, 1999). For these reasons, the work motivation of the IT consultants is worthy of individual study (Tsai et al., 2007). This thesis attempts to fill that gap in the research.

Furthermore, while the concept of motivation has a central role in the research and the organizational behavior literature, work motivation has not been clearly defined (e.g., Locke & Latham, 2004). The term “motivation” may refer either to job satisfaction or work condition satisfaction or performance motivation. The second contribution of this thesis is the use of the concept of “motivators”, theoretically and empirically, as antecedent conditions that presumably lead to motivation, in order to bring more clarity to the definition of work motivation.

Given their challenging work environment, successful IT consultants must be highly motivated to satisfy not only the customer company but also their consultancy firms that are always looking for repeat business. As mentioned earlier, an important question is: “What are the best ways to

motivate subordinates – intrinsic (satisfaction and flow experiences), extrinsic (money and other benefits), or a mix of these rewards systems?” (Lawson & Shen, 1998, p. 12). For managers in an IT consultancy firm, this question is especially relevant because the motivation of knowledge workers is critical to organizational success. This particular work motivation issue, “the knowledge of the other’s motivation” has not been deeply researched. The examination of this issue is a third contribution of this thesis.

## **The Present Studies**

### **General aim**

The general aim of the thesis is to examine the psychosocial work environment of IT consultants with a focus on their motivation. The first specific aim of this thesis is examine the relationship among IT consultants between job characteristics and perceived stress with motivators as the mediating variable. The second specific aim is to explore what motivates IT consultants, in their work environment, as they describe this motivation themselves. Finally, the third specific aim of this thesis is to gain an understanding of how IT consultancy first-line managers perceive and construct their subordinates’ motivation.

### **Studies I, II and III**

#### *Aim*

In accordance with the first specific aim, **Study I** tested work motivators, as a potential mechanism in the relationship between job demand/job control and perceived stress. Using a larger sample, **Study II**

tested the same model used in **Study I** using an extended statistical analysis in order to investigate the consistency of the evidence. This consistency speaks in favour of causality (e.g., Hernberg, 1992). Furthermore, **Study III** used the same the model used in **Studies I** and **II** in order to test the model in a longitudinal prospective design.

### *Model specification (SEM)*

The conceptual research model for **Studies I, II and III** attempts to capture the motivators at work and the interplay among IT consultants between work characteristics and perceived stress in their work environment.

The model is based on the assumption that antecedent conditions “motivators” (e.g., recognition, achievement) presumably lead to motivation. Thus, if employees are satisfied with the motivators, which are perceived as fulfilled, they appear motivated. Moreover, the relationship between job characteristics and work reactions led to the following aim: to examine the relationship between job characteristics and perceived stress with motivators as the mediating variable. Therefore, by investigating this relationship, this thesis contributes to stressor-strain research by exploring the mediating role of motivators as a mechanism underlying the stressor-strain model.

*The relationship between job demand and perceived stress.* Recent research has found that job demands have a clear impact on employee well-being (e.g., Bakker, Demerouti, De Boer & Schaufeli, 2003; Karasek & Theorell, 1990; Larsman, Sandsjö, Klipstein, Vollenbroek-Hutten & Christensen, 2006; Söderfeldt, Söderfeldt, Ohlson, Theorell & Jones, 2000), and that stress levels often depend on high job demands in relation to the employee’s abilities, frustrated aspirations and dissatisfaction regarding valued goals (Kalimo & Mejman, 1987). In a study of three occupational groups – human service, industry and transport – Demerouti, Bakker,

Nachreiner and Schaufeli (2001) find that job demands primarily are related to the fatigue components of stress and burnout. Job resources (e.g., job control) are primarily related to disengagement (e.g., distancing oneself from the content of one's work).

In general, in a work situation characterized by prolonged exposure to high job demands and low job control, the individual may be unable to decrease his/her stress level (high activation is sustained), resulting in tension (Melin & Lundberg, 1997), difficulties in decision-making (cognitive) and headaches and musculoskeletal symptoms (Karasek & Theorell, 1990). On the organizational level, such results may lead to poor work performance and decreased productivity (Le Blanc et al., 2000).

*The relationship between job control and perceived stress.* In general, individual job control is a central concept in the understanding of relationships between stressful experience, behavior and health (Karasek & Theorell, 1990; Melin & Lundberg, 1997; Pousette & Johansson Hanse, 2002). Job control is a job resource that, in general terms, may reduce job demands and stimulate individual growth and development (Bakker et al., 2004).

Regarding job control in the workplace, research in organizational psychology has assumed that the more job control an individual has, the better. The basic research on job control began, according to Thylefors (2004), as early as the 1960s and the 1970s (Gardell, 1976; Karasek, 1979; Rubenowitz, 2004). The findings from this early research are mainly still valid today. In a review of twenty years of empirical research of the Job Demand-Control (JDC) model (Karasek, 1979) and the Job Demand-Control-Support (JDSCS) model (Johnson & Hall, 1988), published between 1979 and 1997, Van de Doef and Maes (1999) find that approximately half of the 63

reviewed studies support the hypothesis that job control has an impact on well-being.

*The relationship between job demand and motivators.* Job demands affect work motivation. Very low or very high job demands are normally associated with lower motivation, and job demands such as role conflict or role ambiguity also tend to suppress motivation (Parker and Ohly, 2008). Similarly, de Jonge et al. (1999) find in a study among nurses that higher levels of job demands are associated with lower levels of work motivation. Furthermore, Mauno, Kinnunen, Ruokolainen (2007) state that one level of job demands, being busy at work, may create a feeling of being important to an employer that, in turn, improves an employee's work motivation. Van den Broeck, Vansteenkiste, De Witte and Lens (2008) find in a study of 17 organizations in Belgium that job demands have a relationship with employees' motivation and energy level. In other words, while high levels of job demands may decrease energy, low to moderate levels of job demands may stimulate employees' needs satisfaction.

*The relationship between job control and motivators.* According to socio-analytic theory (e.g., Hogan & Holland, 2003; Hogan & Warremfeltz, 2003) people have an innate need for acceptance and approval, status, predictability and order, and power and control of resources. Individual differences among people, particularly their personality, affect how people satisfy them (Latham and Ernst, 2006).

Karasek (1979) considers perceived job control as both skill discretion at work and decision authority (job decision latitude). Decision authority is one way of adding challenge to a job (Ramlall, 2004), and decision authority has a positive effect on work motivation (e.g., Adler, 1991; Ambrose & Kulik, 1999; Tummers, van Merode and Landeweerd, 2006). Bakker and

Demerouti (2007) state that job resources (e.g., job control) have an impact on motivation. In line with this, Van Yperen and Hagedoorn (2003), in a study of nurses, and Houkes, Janssen, de Jonge and Bakker (2003), in a longitudinal study of bank officials and teachers, establish that high control is required to motivate work. Moreover, in an exploratory study of job satisfaction and work motivation among IT consultants, Brown (2002) reaches a similar conclusion.

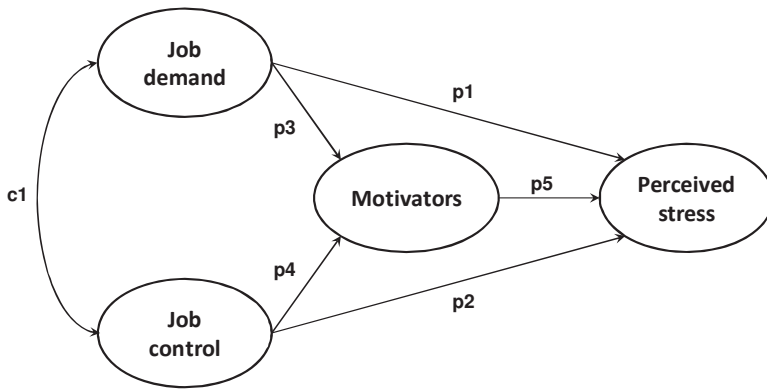
*The relationship motivators – perceived stress.* Motivation and performance outcomes, according to Parker and Ohly (2008), have traditionally been examined separately from health-related outcomes. They argue that job satisfaction and intrinsic motivation are crucial to mental health. Employees who report high motivation have lower absenteeism (e.g., Levy, 2003; Moorhead & Griffin, 2004). Similarly, Lu (1999) found in study of work motivation, job stress and well-being that work motivation has a substantial effect on well-being. Furthermore, in a recent study Van den Broeck, Van Ruysseveldt, Smulders and De Witte (2010) found that intrinsic motivation has an impact on emotional exhaustion.

*Work motivation as a potential mediator.* The risk of ill health among employees in an organization increases where there is an imbalance between the demands of the job and the individual's ability to handle those demands (Karasek & Theorell, 1990). According to Rubenowitz (2004), job satisfaction and work motivation have a significant effect on stress reactions and absenteeism in the workplace. Therefore there is good reason to study other relevant dimensions besides job demands and job control, such as work motivation, in the psychosocial work environment.

To motivate an individual, a job must be challenging, enriching and interesting. Motivation is a major component of any theory that attempts to

predict and explain organizational behavior and performance. The central role of motivation is reflected in the literature (e.g., Locke & Latham, 1990b; Van Knippenberg, 2000). However, it is a complicated process to define motivation. Job characteristics, such as job control and job demands, have been studied frequently with respect to stress, but, according to Van Yperen and Hagedoorn (2003), they have been largely ignored with respect to motivation.

*Studies I and II.* A structural model used in **Study I** and **II** is presented in Figure 3.

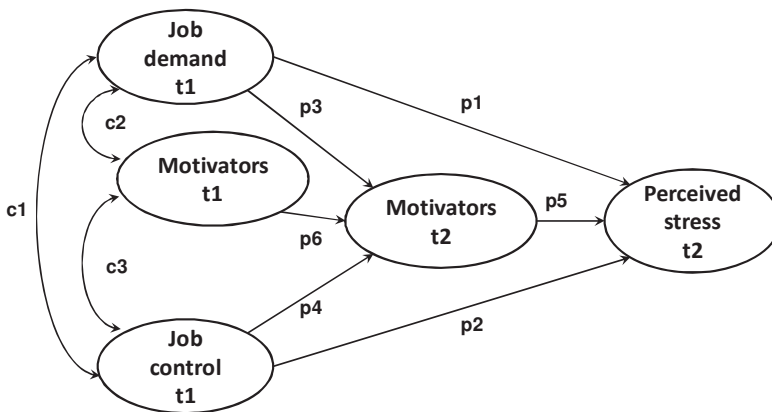


*Figure 3.* Specification of the structural equation model tested in Studies I and II with the mediating effect of motivators. Only latent variables and their relationships are depicted, where  $p$  = paths (regression weights).

The structural model tested in **Studies I** and **II** shows the independent latent variables of job demands and job control, motivators that are treated as the mediating variable, and perceived stress which is considered a dependent (endogenous) variable. This model is in part related to the “Job Demands-

Resources model” developed by Bakker and Demerouti (2007). In the model, job demand is hypothesized to be positively associated with perceived stress (p1) and job control to be negatively associated with perceived stress (p2). Moreover, job demand is hypothesized to be negatively related to motivators (p3) and job control to be positively related to motivators (p4). Finally, motivators are hypothesized to be negatively related to perceived stress (p5) (e.g., Foster, 2000; Levy, 2003; Moorhead & Griffin, 2004).

*Study III.* The structural model used in **Study III** is presented in Figure 4.



*Figure 4.* Specification of the structural model tested in Study III. Only latent variables and their relationships are depicted, where p = paths (regression weights). Manifest variables, error terms and disturbances in the endogenous variable are omitted in the figure.

When testing mediation in two-wave longitudinal studies, it is important to control for the effects of baseline levels (t1) of the proposed mediator (Cole & Maxwell, 2003). Thus, in the causal model in **Study III** (based on the model in **Studies I** and **II**, see figure 3), where motivators at



follow-up (t2) are treated as the mediator, baseline (t1) motivators are also included (p6).

## *Method*

*Participants.* The sample in **Study I** included 198 IT consultants who were employed at one IT consultancy firm in Sweden. The overall response rate was approximately 84 per cent (N=167).

In **Study II** the questionnaire was addressed to 422 respondents who were employed at 10 IT consultancy firms associated in one group (Wave 1 in **Study III**). The overall response rate was approximately 90 per cent (N=380). This questionnaire was used in a two-wave longitudinal study in Study III. The overall response rate in Wave 2 was approximately 76 per cent (N=320). By gender, in **Studies I, II** and **III**, approximately 20 percent of the participants were female. Since the IT consultants' work situation frequently changes, the Wave 1 and Wave 2 were spaced six months apart.

*Design and Procedure.* **Studies I, II** and **III** were web-based and accessible via the Internet. Each prospective participant was sent an e-mail with information about the study and an Internet link to the web page where the questionnaire was available. The e-mail explained the purpose of the survey and guaranteed strict confidentiality. The questionnaire was constructed so that each question had to be answered in order for the questionnaire to be considered complete, ensuring there were no missing data.

## *Measures*

All participants in **Studies I, II** and **III** responded to a questionnaire on background variables, job demands, job control, motivators and perceived stress. The same questionnaires, with minor differences, were used in the three studies.

*Background variables.* Questions concerned the number of years' employment at the firm and the number of years' employment in the IT sector.

*Job demands.* To determine participants' attitudes toward their job demands, a short version of the Swedish version of the "demand–decision latitude" questionnaire (Karasek, 1979), developed by Theorell and co-workers (Theorell et al., 1988; Åkerstedt et al., 2002) was used. The job demands factor asks five questions concerning whether it is necessary to work fast, hard, and with high effort, and whether there is enough time to do the job. (In **Study I** also the question "Do your job demands conflict with each other?" was included).

*Job control (Influence on and control over work).* Participants' attitudes to their jobs were assessed using part of a psychosocial questionnaire developed by Rubenowitz (1997). Five areas are addressed in the questionnaire: Influence on the rate of work, influence on working methods, and influence on the allocation of tasks. (In **Study I** the fourth and fifth items "Technical control" and "Influence of rules and regulations" were also included).

*Motivators.* "Motivators" were assessed using a short form of the Minnesota Satisfaction Questionnaire (MSQ) (Weiss, Dawis, England & Lofquist, 1967). Measures were taken across seven different dimensions, with one question for each dimension: Work itself/Variety, Advancement, Recognition and Achievement. For this study, the author created an additional question for the motivator "Possibility of growth" (Herzberg et al., 1959). (In

**Study I** the dimension “Responsibility” was also included; in **Study II** the dimension “Task significance” was also included)

*Perceived stress.* Perceived stress was assessed using a mood adjective checklist (Kjellberg & Iwanowski 1989; Kjellberg, Johansson Hanse, Franzon & Holmgren, 2000; Kjellberg & Wadman, 2002). This checklist, which was constructed so as to describe mood during work, contains two mood dimensions: Stress and Energy. In this study, only the stress dimension was measured, offering the choices “rested”, “relaxed”, “calm”, “tense”, “stressed”, and “pressured”. The respondents were instructed to think about how they usually feel at the end of a normal workday.

### *Statistical analyses*

**Studies I, II** and **III** had no internal missing values. Structural equation modeling was performed using the maximum likelihood methods of AMOS version 5.0 (Arbuckle, 2003; Arbuckle & Wothke, 1999). The focal point in analyzing structural equation models is the extent to which the hypothesized model adequately describes the sample data. In accordance with the classification of recommended fit indices, a number of fit indices were considered (e.g., Byrne, 2010).

*Testing for mediation.* The hypotheses of mediation were tested in **Studies I, II** and **III** using structural equation modeling as proposed by Brown (1997), estimating direct, indirect and total effects. According to Brown, the direct effect is the influence a variable has on another variable in a direct relationship, and an indirect effect is the sum of all paths from one variable to another that are mediated by one or more additional variables. Furthermore, the total effect is the sum of the direct and indirect effects. In **Study I**, the hypothesis of mediation was measured using the Sobel test

(Sobel, 1982) that tests the significance of the intervening variable effect, also called the indirect effect. In **Study I**, this effect was estimated using AMOS 5, and the standard error for the indirect effect was hand-calculated using the Sobel formula (Sobel, 1982). In **Studies II and III**, direct, indirect and total effects were estimated using AMOS 5, and their standard errors were estimated using the bootstrap function of AMOS 5.

## *Results*

### *Study I*

*The model of job characteristics and perceived stress.* Structures for the relationships between the latent variables were specified and analyzed. Only the path between job demands and perceived stress (.64) was significant, which was also in the expected direction. High job demands (statistically) were associated with high perceived stress among the participants. The non-significant paths were from the job control variables to perceived stress (when controlling for other independent latent variables).

*The process model of job characteristics, motivators and perceived stress.* The second proposed model in **Study I** – the full structural model with a mediator (see Figure 5) – showed that all paths in the measurement models were significant, including the measurement model of the mediator. In the structural part, four of the seven paths were significant and were also in the expected direction (when controlling for other latent variables). In accordance with the first structural model, the path between job demands and perceived stress (.68) was significant. The two job control latent variables were both significantly related to motivators (.55 and .35), which means that high job control (statistically) was associated with high scores in the latent variable (“motivators”). Furthermore, motivators were significantly, but negatively (in

the expected direction), related to perceived stress (-.38). However, the results do not support the hypothesis of mediation between job demands and perceived stress through motivators (when controlling for job control).

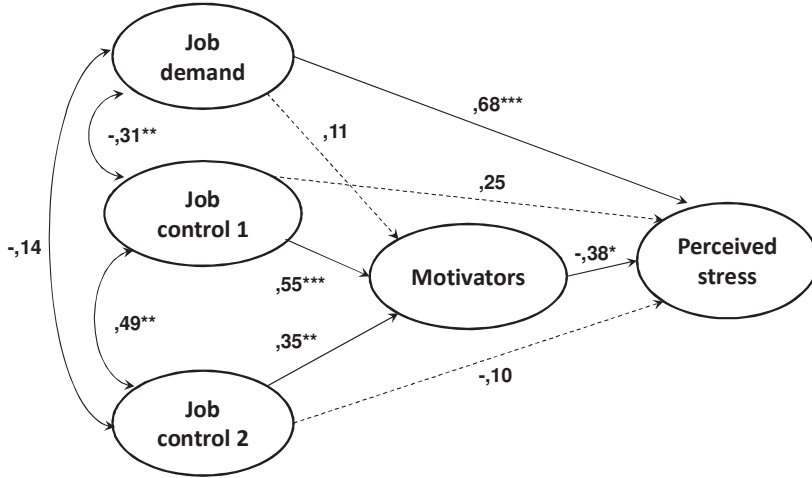


Figure 5. Structural equation model with motivators as mediator among IT consultants (N=167). Structural components with standardized estimates. Only latent variables and their relationships are depicted, where  $p$  = paths (regression weights). The non-significant paths are marked as dotted lines. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$

### Study II

*The model of job characteristics and perceived stress.* All paths (factor loadings) in the measurement models were significant. In the structural part, the path between job demands (.62) and perceived stress, and the path between job control (-.25) and perceived stress were both significant in the expected direction. High job demands (statistically) were associated with high perceived stress, and high job control was associated with low perceived stress among the IT consultants.

*The process model of job characteristics, motivators and perceived stress.* The second proposed model in **Study II**, that is, the full structural model with motivators as a mediator (see Figure 6), showed that five of the six associations were significant and were also in the expected direction (when controlling for the other latent variables). In accordance with the model of job characteristics and perceived stress, the paths between job demands (.64) and perceived stress and between job control (-.14) and perceived stress were significant. The job control latent variable (.65) was significantly related to motivators, which means that high job control (statistically) was associated with high scores in the latent variable (“motivators”). Moreover, the job demands latent variable (.16) was significantly related to motivators, signifying that high job demands (statistically) were associated with high scores in the latent variable (“motivators”). Furthermore, motivators (-.16) were significantly, although negatively (in the expected direction), related to perceived stress. Therefore, job control and job demands were found to be significantly related to changes in motivators, which in turn affected perceived stress.

The test of the indirect effect (i.e., mediation) showed that the effect of control on perceived stress through motivators was statistically significant (C.R= -1.97,  $p < .05$ ). The indirect effect of job demands on perceived stress through motivators was non-significant.

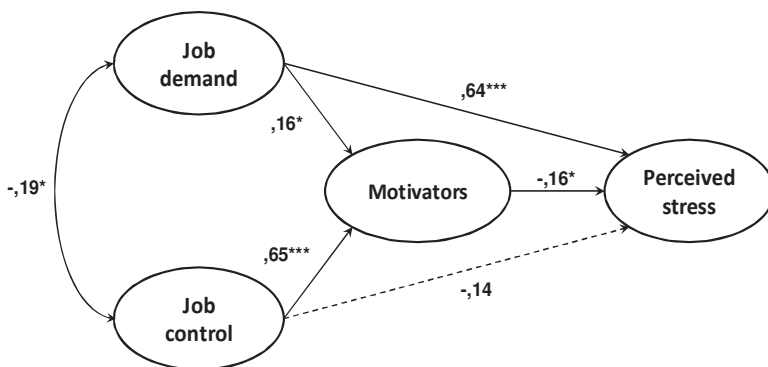


Figure 6. Structural equation model with motivators as mediator among IT consultants (N=380). Structural components with standardized estimates. Only latent variables and their relationships are depicted, where p = paths (regression weights). The non-significant paths are marked as dotted lines. \*  $p < .05$ . \*\*\*  $p < .001$ .

### Study III

*The process model of job characteristics, motivators and perceived stress.* Structural equation modeling of the relationship between job demands, job control at baseline (t1) and perceived stress at follow-up (t2) was tested, with motivators at follow-up (t2) as the hypothesized mediator (controlling for motivators at baseline, t1) (see Figure 7).

The hypothesized model revealed significant direct relationships (in expected direction) between job demands (t1) and perceived stress (t2) and between job control (t1) and perceived stress (t2). Moreover, motivators at baseline (t1) were not related to perceived stress at follow-up (t2), but motivators at follow-up (t2) controlling for the baseline motivators (t1) were negatively related to perceived stress at follow-up (t2) (direct effects). The relationships between job demands and job control at baseline (t1) and

perceived stress at follow-up (t2) were not mediated by motivators at follow-up (t2) (with motivators at baseline included in the model).

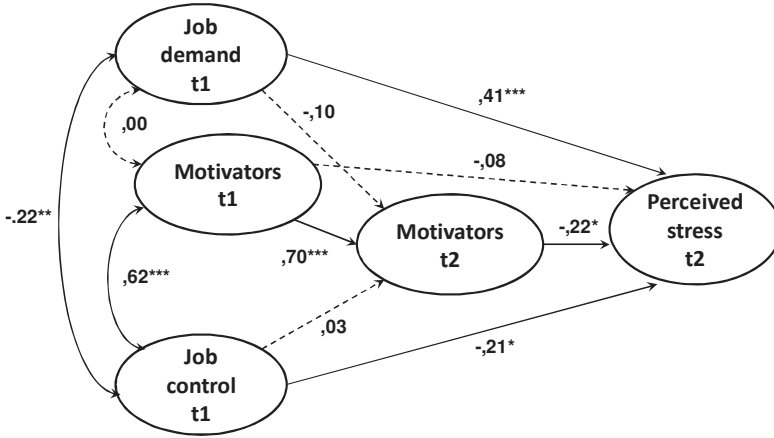


Figure 7. Structural model with standardized coefficients (N=320). Relationships between job demands (t1), job control (t2), motivators (t1 & t2) and perceived stress (t2). Only latent variables and their relationships are depicted. Manifest variables, error terms and disturbances in the endogenous variable are omitted in the figure. The non-significant paths are marked as dotted lines.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

## Study IV

### Aim

According to the second aim, in **Study IV** the psychosocial work environment of IT consultants was investigated, particularly as it influences their work motivation at customer companies and at their own consultancy firm.



## *Method*

*Participants.* The sample population in **Study IV** consisted of 12 IT consultants, three females and nine males, ages 29 – 49 years, chosen from among 194 consultants employed at the same IT consultancy firm in Sweden. These 12 IT consultants were selected on the basis of criteria specifically relevant to the aim of the study – all worked for customer companies in project-oriented work with time-limited tasks.

*Procedure.* The interviewer explained the purpose of the study to the interviewees, informed them that participation was voluntary and conducted all interviews. The interviews, conducted with each participant individually at the IT consultancy firm's offices, were informal conversations of 45-60 minutes, with no specific time limit. Interviewees did not receive the questions in advance. During the interviews the interviewer felt free to ask other, non-scripted questions if a response required clarification. The audio-taped interviews were transcribed on Level III in accordance with Linell's (1994) system so that the transcripts were standardised at the level of written language.

## *Measures*

A semi-structured interview guide were designed that would provide both flexibility and guidance in the interviews. On the one hand, we wanted the freedom that would allow us to explore novel areas that might arise in the interviews (Smith & Osborn, 2008), but, on the other hand, we wanted to maintain a structure that would permit replication of our results (de Vaus, 2006). To prepare for the interviews, we created questions around themes inspired by Alvesson and Kärreman's (2007) three motivation categories – intrinsic motivation, extrinsic motivation and interactive motivation.

The following framing question for the interviews was used: What motivates you at work? We then asked 25 questions, divided among the three motivation categories:

- Nine questions on intrinsic motivation: E.g., “Do you feel motivated by your performance and the results of your work?”
- Six questions on extrinsic motivation: E.g., “Is it important to have the opportunity to be promoted or to advance in your career?”
- Ten questions on interactive motivation: E.g., “As a consultant, do you feel obligated to put in extra effort?”

In designing our interview questions, following Kvale’s (1997) research guide, we studied prior research on work motivation.

### *Analysis of data*

In **Study IV** a hermeneutical point of view was taken in which the frame of reference is selective and the collected materials are interpreted. The approach is inductive – from the data, theoretical and general conclusions were drawn. These steps were followed in the analysis of the transcribed interviews.

The interview transcripts were read and reread in order to obtain a general idea of their content. This process allows any new information obtained to affect the interpretation of the general content, which in turn can affect the interpretation of the individual elements, and so on (Kvale, 1997).

Next, in the line-by-line analysis of the transcripts, notes were taken of themes that captured the interviewees’ attitudes and opinions about their work motivation.

In the final step, the categories were analysed in terms of Alvesson and Kärreman’s (2007) motivation categories – intrinsic motivation, extrinsic motivation and interactive motivation.

## *Results*

The results of our analysis in **Study IV** are presented using the three descriptive categories: (1) Intrinsic Motivation; (2) Extrinsic Motivation; and (3) Interactive Motivation.

*Intrinsic Motivation.* An individual is intrinsically motivated by activities that provide satisfaction merely through the performance of those activities. Such satisfaction is not derived from the promise or expectation of material or social rewards.

The IT consultants state that variety in tasks is crucial to job satisfaction. Such variety is typically found in longer development projects with multiple phases. They say that the principal reason for becoming an IT consultant is that the occupation offers much work variety. Furthermore, the consultants feel motivated if they have control over their work situation – both in working at a customer company and in acting for their consultancy firm. They like to influence, if not control, a development project – from requirement specifications to implementation to launch. They appreciate similar autonomy in the work environment of their employer, the consultancy firm, although they recognize that such autonomy may conflict with the firm's goals. The IT consultants are also motivated by the possibility of learning new work skills. After acquiring new skills in courses or in self-study, they like to apply and test those skills in tasks for the customers. They see learning new skills as a way to grow professionally and as a way to prepare for more complex work in their customer assignments.

The consultants say they are motivated by the successful completion of their tasks. They are satisfied when projects produce valuable results for the customer. Besides the motivation to achieve results, the consultants are also motivated by the satisfaction that the customer expresses. They feel frustrated

and demotivated when projects are not finished. The IT consultants say they are motivated by praise for a job well done. They indicate that this praise typically comes from the customer, more rarely from their managers at the consultancy firm.

*Extrinsic Motivation.* An individual is extrinsically motivated by the expectation of some result from an activity, especially when the activity is not interesting in itself. Then people must see a connection between their behavior and a desired result, such as specific rewards. We identified two subcategories of extrinsic motivation: “Salary-bonus” and “Promotion and advancement”.

The IT consultants agree the flexible salary-bonus is not a motivating factor in their work. They feel producing a result that satisfies the customer company is more motivational. According to the consultants they are unable to earn the flexible salary-bonus given the full-time tasks they have at the customer companies where they cannot report all their hours. Furthermore, the consultants agree that opportunities for promotion and career advancement are important motivating factors. If such opportunities are lacking at a consultancy firm, they have no alternative except to change jobs. The path to promotion and career advancement is through assignment to more complex and challenging tasks as well as assignment to entirely new tasks that require special competences with added responsibilities.

*Interactive motivation.* An individual is interactively motivated by the social dimensions of a situation, such as social groups and social norms. We use Alvesson and Kärreman’s (2007) three categories of Reciprocity, Norms and Identity in this analysis.

The IT consultants believe that loyalty (in the exchange for benefit received) is motivating factor, but they are uncertain to whom or to what they

owe loyalty – the consultancy firm, the customer company, the project/task and/or to colleagues. It is important to enjoy one's work. This is more likely when the consultants have a friendly relationship with their co-workers. Therefore, recognizing the importance of camaraderie among the consultants, with the aim of creating a positive and productive work environment, the consultancy firm sponsors a number of group social activities. However, most consultants don't feel that these activities are particularly motivational. Mainly they don't participate in them because they have no spare time after working hours, particularly when they have family obligations. Yet their feelings about these activities are somewhat mixed since they say they would miss them if they disappeared.

None of the consultants thinks that the consultancy firm has any motivational norms that encourage working harder. In any case, many believe such norms are demotivating. One consultant commented that the current situation is better than in 1990s IT Boom Years when the norm was you had to work all night long. Finally, the consultants believe their identity as an IT consultant makes them work hard, especially compared with the customer companies' employees. Since they are better paid than those employees, they think they should be more productive.

## **Study V**

### *Aim*

In accordance with the third aim, in **Study V** six team leaders at the same IT consultancy firm were interviewed, and a hermeneutical approach was taken in the selection and interpretation of the data produced by the team leaders' narratives.

## *Method*

*Participants.* The firm in **Study V** is a typical, mid-sized IT consultancy firm. We selected the firm's team leaders – three male team leaders and three female team leaders – as narrators. These six leaders were the only individuals acting as team leaders at the firm. Each team leader supervised approximately 15 to 20 subordinates and was accountable for a profit contribution to the firm. Since the firm has no central Human Resources Department for the coordination of personnel and administrative tasks, the team leaders were responsible for hiring/firing, salary negotiations and personnel development.

*Procedure.* In **Study V** we began our research by explaining the purpose of the study to the team leaders and telling them that participation was voluntary. One interviewer conducted the six individual interviews at the IT consultancy firm's offices as informal conversations. The interviews were conducted in 2004 when the IT sector was in recovery after the severe industry downturn that began in 2001. At the time of the interviews, there was an overcapacity in the IT consultancy sector, and the customers were more demanding than they had been before the downturn.

We used an interview guide with loosely structured questions supplemented with important key words. We based the guide on the team leaders' daily interaction with their subordinates, particularly those interactions that related to work motivation. As researchers we reflected upon the narrators' answers and introduced supplementary questions to obtain clarification (Murray, 2008). According to Murray (2008), narratives are not just life stories in the most general sense. They are also stories about everyday experiences.

## *Measures*

In **Study V** the first question was “What do you think motivates the subordinates in the organization?” As the team leaders responded, we asked more spontaneous questions related to their perception of the factors that motivated their subordinates. These questions, which were in response to the team leaders’ answers to our first question, therefore sometimes varied among the interviews. We taped the interviews and later transcribed them on Level III in accordance with the system Linell (1994) describes in order to standardize the transcriptions to the level of written language.

## *Analysis of data*

In **Study V** a hermeneutical approach was taken in the selection and interpretation of the data produced by the team leaders’ narratives. The approach is inductive: From this data, theoretical and general conclusions were drawn. The team leaders’ substantive responses to the research question of what motivates their subordinates are woven into their narratives that reflect their assumptions about the truth. In order to analyze the accounts, the analysis was divided into two broad phases – descriptive and interpretive (Murray, 2008).

First, the interview documents in their entirety were read, line-by-line, in order to reach an idea of their content. Then, to find representative material from each of the six narratives, key issues pertaining to motivation were selected and coded.

Second, the narratives were analyzed and interpreted from a narrative perspective (Czarniawska, 1997; Fog, Budtz & Yakaboylu, 2003) in order to identify the message that the team leaders wanted to convey about what motivates their subordinates. Consistent with our frame of reference, theories

of motivation and theories of leadership and identity formation were used in this analysis.

## *Results*

As only four of the six narratives (two by women, two by men) served the purpose of the research in **Study V**, we present a combined narrative for the two female team leaders and a combined narrative for the two male team leaders. Following each narrative, we present our commentary on the narrators' thoughts on their subordinates' motivation.

The female team leaders' main message is that motivation generally depends on the job. It is important to convey to their subordinates that, as team leaders, they care about them and their work. The female team leaders must understand the individual needs of the consultants. Some consultants are more interested in money while others are more interested in the social companionship at the firm.

The male team leaders' main message is that there is a big difference between people and their motivators. They realize that there are different subgroups that are motivated differently. As team leaders, they must be aware of these differences that may change and that may also depend on the life situations of the consultants. One important explanation for these differences relates to the date of the consultants' initial employment and the length of their employment. Another explanation relates to the consultants' opinion of the bonus system, pro or con. Thus, male team leaders see a dichotomy in the motivating factors for their subordinates.

*The message of the narratives.* While the narratives provide responses to our research questions on subordinates' motivation, it is also obvious that the team leaders are trying to describe their leadership situations. In all narratives, they describe their ambitions that, for various reasons, have not



been wholly fulfilled. The tension between the ideal and the reality shapes their managerial identities, as discussed below.

There is one important difference between the female team leaders' narrative and that of the male team leaders. The female team leaders assume their subordinates will be motivated so long as caring leadership is provided. The male team leaders do not present this view of leadership. Instead, they believe merit bonuses are the main motivation for subordinates. Thus they assume the subordinates' motivation depends on circumstances outside their control.

## Discussion

There are three specific aims in this thesis. The first specific aim is to examine the relationship between job characteristics and perceived stress in the IT sector, with motivators as the mediating variable (**Studies I, II and III**). The second specific aim is to learn what motivates IT consultants in their work environment (**Study IV**). The third specific aim is to gain an understanding how IT consultancy first-line managers construct their subordinates' motivation (**Study V**).

### Studies I, II and III

In **Studies I, II and III**, motivators were measured using antecedent conditions that, according to Herzberg et al. (1959), lead to motivation. These motivators used items (facets) from the Minnesota Satisfaction Questionnaire (MSQ) (Weiss et al., 1967). The same questionnaires were used in the three studies (although with minor differences). The sample in **Study I** was one IT consultancy firm in Sweden, and the sample in **Study II and III** was ten IT

consultancy firm in Sweden. The latent variable representing motivation was labeled “motivators”.

The results from the three studies indicate that high job control was significantly related to high appraisals of motivators, and motivators were negatively related to perceived stress. Furthermore, the test of the indirect effect (i.e., mediation) in **Study II** showed that the effect of control on perceived stress through motivators was statistically significant. In **Study I** this effect was almost statistically significant ( $p = 0.6$ ) and in **Study III** this effect was not statistically significant. In the three studies, the results from all three studies indicate that job demands were positively related to perceived stress. Additionally, the indirect effect of job demands on perceived stress through motivators was not significant. These findings are discussed below.

Moreover, the results from **Studies I, II and III** indicate good consistency, which speaks in favour of causality (one of several criteria in the judgment of causality) (Hernberg, 1992). A similar structural equation model with similar structural components was used in the three studies. The same associations were found in both studies.

### *Motivators as a mediator*

Mediation variables are well-known in psychological theory and research. One reason for their use is that in prevention and behavior research, it is interesting to target mediating variables that are causally related to the outcome in order to design interventions to change the outcome. Another reason for their use is methodological – to facilitate the study of the effect of the mediating variable on the relationship between two other variables (MacKinnon, Fairchild & Fritz, 2007). According to MacKinnon et al. (2007), a mediating variable transmits the effect of an independent variable to a dependent variable. There are different statistical methods for testing mediation.

One method of testing the mediation is, according to MacKinnon et al. (2007), the product of coefficients tests. This method tests the significance of the indirect effect (the product of the direct effect of the independent variable on the mediator and the direct effect of the mediator on the dependent variable) by dividing it by its standard error. This standard error can be calculated using, for example, the Sobel formula (Sobel, 1982).

Baron and Kenny (1986) discuss four steps in establishing mediation. There is an ongoing discussion on whether the first step – the relationship between the independent and the dependent variable must be significant – should be a requirement. According to Judd and Kenny (1981), it is possible that mediation may exist even if there is no significant relationship between the independent and dependent variables. There are, according to MacKinnon et al. (2007), many cases where significant mediation exists even if the requirement of a significant relation between the independent and the dependent variable is not established. In line with this, Shrout and Bolger (2002) argue that “the rigid requirement” in the first step of Baron and Kenny’s (1986) mediation guidelines can be dropped.

*Testing for mediation.* The relationship between job control and perceived stress is significant in **Studies II** and **III**, but not in **Study I**. However, a significant mediation may exist even if there is a non-significant relationship between the independent and the dependent variables (e.g., Judd & Kenny, 1981; MacKinnon et al., 2007; Shrout & Bolger, 2002). The results in **Studies I** and **II** show motivators as a mediator in the relationship between job control and perceived stress, but in **Study III** this relationship was not significant. The results in **Study I** are almost statistically significant ( $p = 0.6$ ), and in **Study II** the test of the indirect effect (i.e., mediation) shows that the effect of control on perceived stress through motivators is statistically significant. Hence, in **Study II** the results show a mediation, which means

that a high rate of job control in the workplace makes a consultant more satisfied with antecedent conditions that, according to Herzberg et al. (1959), lead to motivation (e.g., responsibility, recognition, achievement, possibility of growth), in turn leading to the positive outcome of lower perceived stress.

The findings in **Studies I** and **II** among IT consultants agrees with de Rijk, Le Blanc, Schaufeli and de Jonge's (1998) conclusion that the individual's need for control and his/her actual level of job control are more strongly related to job motivation than to stress. The higher the level of job control, the greater the opportunities for the development of intrinsic motivation (Deci & Ryan, 1985). Furthermore, a person who has an opportunity to control the job situation should have a greater possibility of developing intrinsic motivation than a person who lacks that opportunity (Lundsten, 2008).

Van Yperen and Hagedoorn (2003), in a study of nurses, and Houkes, Janssen, de Jonge and Bakker (2003), in a longitudinal study of bank officials and teachers, establish that high control is required to motivate work. Moreover, in an exploratory study of job satisfaction and work motivation among IT consultants, Brown (2002) reach a similar conclusion.

The results from **Studies I**, **II** and **III** show that the job control latent variable is significantly related to motivators. In this context, a low level of job control means that IT consultants cannot influence important parts of their tasks and their work environment. They have no possibility for independent decision-making or for taking the initiative. According to Thomas and Velthouse (1990), perceived control over the environment involves both the belief that individual behavior will have an impact and that one can achieve the relevant behavior competently. Hence, this belief in one's own capability has an impact on intrinsic motivation. According to Lundsten (2008), the degree of control an employee has in a managerial position will be advantageous for the occurrence of intrinsic motivation. Alvesson (2004)

thinks the most important factor in knowledge-intensive firms (e.g., IT consultancy firms) is interesting and stimulating work tasks that lead to learning and development (measured as motivators in **Studies I, II and III**). In agreement, Pyöriä (2005) argues that the real substance of work, for most knowledge workers, is not the product but the work process. Hence, the relationship between job control and motivations can be explained by the importance to an IT consultant of having control of work content in a motivating work environment, leading to a lower level of perceived stress.

The IT consultant's wish for control in the customer's environment can be challenging. According to Alvesson (2004), interesting and stimulating work tasks, which imply learning and development and a positive work environment, are important in this context, but in most cases it is difficult for management to control this important part of the work. Because of the competition, there is seldom an excess of "dream projects". The market demands utilization of already existing knowledge, but the consultant gets satisfaction from developing new knowledge areas. Yet, as Alvesson (2004) notes, customers are seldom willing to pay for the self-fulfillment of the consultant.

However, motivators did not mediate the relationship between job control and perceived stress in the two-wave study in **Study III**. Nevertheless, because of the "half-longitudinal" design, conclusions about causality should be drawn with caution. The observation that the impact of control on perceived stress was not mediated by motivators can be explained partly by the fact that motivators may be more directly related to perceived stress (motivators and perceived are measured at the same time, see p5 in figure 4). Accordingly, in **Study III** motivators were significantly negatively (i.e., expected direction) associated with perceived stress (direct effect). In a study of call centre work, Wegge et al. (2006) find that high work motivation corresponds to greater well-being among employees. While a call centre work

environment is not identical to the work environment of IT consultants, there are similarities. Like IT consultants, call centre workers are in the service sector and have to deal with many customer demands. In addition, Parker and Ohly (2008) assume that intrinsic motivation is crucial to mental health. Previous research shows that employees who report high motivation have lower absenteeism (e.g., Levy, 2003; Moorhead and Griffin, 2004). Lu (1999) finds that work motivation has a substantial effect on well-being. Michie, Oughton and Bennion (2002) claim that a large body of literature supports the idea that increased motivation will also lead to increased productivity and profitability.

Another important finding is that **Studies I, II and III** all show that the motivators' latent variable was significantly related to perceived stress. While noting that motivation and performance outcomes have traditionally been examined separately from health-related outcomes, Parker and Ohly (2008) believe that job satisfaction and intrinsic motivation are crucial to mental health. Employees who report high motivation have lower absenteeism (e.g., Levy, 2003; Moorhead & Griffin, 2004). In line with this conclusion, Lu (1999) in a study of work motivation, job stress and well-being finds that work motivation has a substantial effect on well-being.

None of **Studies I, II and III** supports the hypothesis of mediation between job demands and perceived stress through motivators (when controlling for job control). However, the results from the three studies show that job demands affect perceived stress, as noted earlier.

### *Psychosocial work environment; job demands, job control and perceived stress*

*The relationship between job demand and perceived stress.* **Studies I, II and III** confirm findings from previous research, namely that job demands have a significant impact on perceived stress (Dallner, 1999; Groot &

Maassen van den Brink, 1999; Jacobsson, Pousette & Thylefors, 2001; Kecklund, Dahlgren & Åkerstedt, 2002; Rafferty, Friend & Landsbergis, 2001; Searle, Bright & Bochner, 1999). The contribution of this research is that this association can also be found among IT consultants. Stress, which exists in the relationship between a person and his/her environment (Lazarus & Folkman, 1987), creates strain or exceeds the individual's resources (Lazarus, 1990). This phenomenon seems to apply to the IT consultant's work environment as well. In the three studies, it is shown that job demands, where the IT consultant's work is often performed in co-operation with very demanding customers, is the strongest predictor of his/her perceived stress.

For consultants, solving customer problems may produce feelings of competence, accomplishment, and growth, but if customer expectations increase excessively and are seldom satisfied, the consultant's sense of self-efficacy may diminish and his/her optimism may decrease. If the customer makes demands on a provider of services, it is difficult for the provider to refuse to assist because of the responsibility to the customer (Dormann & Zapf, 2004). Furthermore, a consultant with a strong customer orientation often is in a weak, subordinate position to powerful clients (Fincham, 1999). Moreover, a consultant risks losing a customer if he or she refuses a task. "Returning home" to the consultancy company because of a lack of a customer tasks, is a very stressful situation. A consequence of this interaction with customers, who are not the consultants' employers, is a situation fraught with the potential for high stress. In the long run, the situation fosters cynicism among consultants and may result in their emotional exhaustion.

*The relationship between job control and perceived stress.* There is confusion in the literature with regard to this relationship. Some researchers support the existence of this relationship while others deny it (Van de Doef & Maes, 1999). **Study I** confirms previous research, namely that job control has

no significant impact on perceived stress (Dallner, 1999; Groot & Maassen van den Brink, 1999; Jacobsson et al., 2001; Kecklund et al., 2002; Rafferty et al., 2001; Searle et al., 1999). However, both **Studies II and III** demonstrate that job control has a significant impact on perceived stress (Spector, 1986; Van Yperen & Hagedoorn, 2003).

The results in **Study I** compared to the results in **Studies II and III** support conclusions by Van De Doef and Maes (1999). In their meta-analysis they find that one-half of the studies they reviewed support the hypothesis that job control has an impact on well-being while the other half does not.

As the strength of the coefficients in **Studies I, II and III** were rather equal, one explanation for the difference in the results may relate to the sample size in **Study I** compared to those in **Studies II and III** (N=167 in **Study I**, N=380 in **Study II** and N= 320 in **Study III**). With the larger sample size in **Studies II and III**, significant results are more easily obtained.

## **Study IV**

Modern organizations, including IT consultancy firms, recognize the need to understand work motivation among employees. It is thought that a variety of factors motivate employees in general (Scheuer, 1999), but there may be specific factors that motivate IT consultants. The IT consultant works in a special climate of globalization, rapidly changing technology, constant renewal of skills, extensive customer interaction and a labour market that is highly sensitive to economic swings. In the discussion of what motivates IT consultants, Alvesson and Kärreman's (2007) three-category motivation model (Intrinsic Motivation, Extrinsic Motivation and Interactive Motivation) are used to frame the consultants' self-reported commentaries.



## *Intrinsic Motivation*

The results from **Study IV** largely confirm Hackman and Oldham's (1980) JCM of work motivation (Champoux, 1991; see also Herzberg et al., 1959). Variety in tasks, job autonomy, praise for a job well done, the chance to acquire new skills, and the sense of accomplishment significantly affect IT consultants' work motivation. Nevertheless, variety in tasks may be unstimulating if the tasks themselves are routine. Korunka et al., (2008) state that lack of challenge is an important factor in predicting turnover among IT workers. Therefore knowledge-intensive firms (e.g., IT consultancy firms) require interesting and stimulating assignments for their consultants that promote learning and development (Alvesson, 2004). **Study IV** confirms Pyöriä's (2005) conclusion that the real substance of work for most knowledge workers is the work process not the product.

Job autonomy has long been recognized as important factor in employee motivation and satisfaction (Hackman & Oldham, 1980; Herzberg et al., 1959; McClelland, 1987; Oldham & Hackman, 2010)). Our findings confirm Swart and Kinnie's (2003) assertion that employees in knowledge-intensive firms also want a high degree of job autonomy. Confidence in one's ability to manage work requires an employee to believe he/she can have a beneficial effect on the work (Thomas & Velthouse, 1990). Hence, the employee's belief in his/her abilities –that he/she can be trusted to act independently – is a factor in intrinsic motivation. Unlike Kärreman et al., (2002), who find that the settings of knowledge-intensive firms are bureaucratic and hierarchical, the consultants in this study say they work in a rather permissive culture that allows them some autonomy. However, they also observe that this culture does not set and promote clear organizational goals. Yet, at the customer companies, the consultants' autonomy may be more restricted. We found that when a powerful customer makes demands on

an IT consultant, job autonomy may be threatened (see Fincham, 1999). The consultant, as the customer's for-hire employee, must meet these demands (Dormann & Zapf, 2004).

The consultants in **Study IV** say that praise for a job well done is a highly motivating factor in their work. Their attitude toward positive and negative feedback agrees with Venables and Fairclough's (2009) study on the influence of performance feedback that shows that positive and negative feedback have opposite effects on work motivation. However, in IT consultancy, a problem arises owing to the peculiarities of the work environment. Since the consultants essentially work for the customer company, at some managerial as well as physical distance from the consultancy firm, it is the customer company who provides the feedback. The consultancy firm management must rely on the evaluations of the customer company before providing any praise (or criticism) to the consultants.

### *Extrinsic Motivation*

The financial incentive of salaries and wages has been much studied in work motivation research. Some research argues that monetary compensation is not a determinant of work motivation (e.g., Deci & Ryan, 1985; Herzberg et al., 1959; Maslow, 1970). According to Herzberg's "Motivation-Hygiene Theory" (Herzberg et al., 1959) money as a hygiene factor removes the obstacles to job satisfaction rather than motivates performance. Other research, however, argues that the empirical evidence fails to support the hypothesis that money negatively affects motivation and performance (e.g., Bartol & Locke, 2000; Lawler, 1971; Locke, Feren, McCaleb, Shaw & Denny, 1980; Rynes, Gerhart & Parks, 2005).

One interpretation of the ineffectiveness of the monetary incentive identified in **Study IV** is that the IT consultants are simply not very interested in financial rewards. It is possible the explanation for this disincentive effect

is that they are knowledge workers. According to Amar (2004), the effectiveness of money as a motivator in knowledge work environment is rather low. As people who deal continuously with non-standard problems, knowledge workers have to be creative. According to Amabile (1998), financial rewards may not hinder creativity, but neither are they spurs to creativity.

Another interpretation relates to the design of the salary-bonus system at this consultancy firm that is largely outside the control of the IT consultants. For a compensation scheme to work as a motivator, employees must understand not only how distributions are made but also how they can influence those distributions. Even the most well intentioned monetary incentive plans will achieve little if employees are unable to link their performance to a company's goals and rewards.

### *Interactive Motivation*

According to Rousseau (1989), psychological contracts in organizations reflect understandings and expectations about a mutual commitment in the exchange relationship between a company and an employee. In another study, Rousseau (1990) find two sets of commitments in such contracts – relational and transactional. Raja et al. (2004) develop this idea of psychological contracts in distinguishing between the more formal “Transactional contract”, which is short-term and has a purely economic focus requiring limited involvement by the parties, and the “Relational contract”, which is long-term and refers to such ideals as loyalty. In our study, the motivator of reciprocal loyalty reflects the relational contract since the IT consultants may be loyal to the consultancy firm, the customer company, the task/project and/or their colleagues. This explanation of motivation agrees with Lee and Liu's (2009) conclusion that motivation is significantly influenced by work attitudes

implied by psychological contracts. Employees with relational contracts are more willing to work with and help colleagues.

Employees in knowledge-intensive firms, besides being well paid, often receive other perquisites of employment, one of which is firm-sponsored social activities (Alvesson, 2000). Social activities, according to Alvesson and Kärreman (2007), may create a reciprocal situation between employees and their employer that leads the employees to return the favour by working harder. At the consultancy firm of this study, while there are a number firm-sponsored of social activities available, some consultants prefer family time to such functions. It is possible, as Kossek and Misra (2008) conclude generally about the workforce of recent years, the IT consultants have many non-work demands and few non-work support systems (e.g., child /elder care and nuclear families). In **Study IV**, social activities in non-work time seem to be a hygiene factor rather than a motivator. Curiously, however, the IT consultants want the opportunity to participate in such social activities. Possibly they look forward to a time when non-work demands are fewer.

Identity is a popular framework used to investigate a broad set of phenomena. Identity, which is constructed at different levels (individual and group, organizational and extra-organizational, stakeholder and consumer) (Haslam & Ellemers, 2005), seems to have wide application, including a linkage to motivation (Alvesson, Ashcraft & Thomas, 2008). The construction of the IT consultant's identity affects his/her work behavior, reflects his/her interaction with the customer company, and defines the self in terms of work. According to Alvesson (2000), one particular aspect of the consultant's identity is his/her tendency to work harder than others. This study confirms this perception. Being an IT consultant often means making an extra effort when needed (Alvesson, 2000). An IT consultant in **Study IV** explained: "*As a consultant, you have to work a little harder if necessary. It is hard to say no when you are asked to stay an extra hour*".

## Study V

When we ask people to tell us something - in **Study V**, we asked managers what motivates their subordinates - we hear evidence of what exists in the here and now as well as evidence from prior periods of their socialisation (Berger & Luckmann, 1967).

These processes of socialisation, which are processes of identity formation, may be inherently conflicting. Indeed, research on managerial identities (Sveningsson & Alvesson, 2003) uses struggle as a metaphor to illustrate the tensions between different discourses and a turbulent, changing reality. This struggle is presented differently in a recent study. Whereas Sveningsson and Alvesson based their study on one manager, Garcia and Hardy (2007) studied twenty-two managers in three different positions in an Australian university. As a result of their research, Garcia and Hardy constructed six different categories of narratives, two for each position. Taking inspiration from this way of constructing narratives, we expected to find subgroups among the IT team leaders who narrated different stories and thus articulated different voices.

As noted above, we understand that our self-images are a result of socialisation and may therefore be somewhat more circumscribed than self-images derived from a deeper self-knowledge. Our view of others – those we seldom see or talk with – may be even more restricted. In the context of our study, the IT consultants mainly work at the customers' offices, taking their tasks and directions from the customers. As a result, the actual interaction time between the team leaders and consultants is quite limited. There is little direct opportunity for the team leaders to know their subordinates, even when they must evaluate them in the distribution and assessment of work. The inevitable expectation, and a subject of interest in **Study V**, is that team

leaders in such environments are likely to simplify their characterizations of the consultants to the point of stereotyping them.

From the beginning of our research in **Study V**, we recognized that employee motivation is a complex area. As our research revealed, this complexity leaves room for managerial interpretation and thus the construction of ideas about motivation of subordinates. The construction of motivation in general suggests that motivation is more a matter of socialisation (Berger & Luckmann, 1967) than an objective process of knowledge accumulation. Classic motivational theory assumes a true and objective reality is identifiable; more modern theory assumes reality is that which is observed and interpreted. In this very complex area, then, a mutual contract between leaders and their followers can be built on their common interpretation of important motivational dimensions (Weick, 1995).

### *The two subgroups - the female and male team leaders' narratives*

We found that, based on their understanding of their subordinates' motivation, the narratives can be divided into two subgroups: one subgroup for the female team leaders and one subgroup for the male team leaders. In general, the female team leaders express much more concern for the IT consultants' well-being than the male team leaders. The female team leaders emphasize job satisfaction and personal fulfillment as motivating factors while the male team leaders emphasize merit bonuses.

This is a case study of six team leaders at one firm and it can be argued that this small sample size limits the generalization of the findings and we will generate a hypothesis to test in a larger representative sample more than draw a general conclusion.

### *Stereotyped narratives of subordinates' motivation*

The narratives of subordinates' motivation that both subgroups produced may be examples of what Levy, Stroessner and Dweck (1998) call social stereotyping. Tajfel (1981) suggests that the stereotyping phenomenon is a result of the need for coherence, simplicity and predictability in the context of an inherently complex social environment. Moreover, Bodenhausen and Wyer (1985) conclude that stereotypes are often useful for providing us with a basis for understanding and predicting the behavior of others when demands for processing of information are high. In short, stereotyping is a way for the team leaders in this study to simplify and predict employee behavior with the result that they do not prioritize work motivation. Team leaders in an IT consultancy firm have to provide tasks that motivate their subordinates, but they do not really have a lot of opportunities to influence the tasks and work environment at the customers' locations. They cannot choose between motivating or demotivating tasks since they may not know, or even want to know, the nature of the consultants' tasks. This implicit contract (Schein, 1978) between the IT consultancy firm and its consultants defines the effort the consultants make in exchange for acceptable working conditions. If the contract becomes explicit, as result of a manager-employee discussion about tasks the consultants find interesting and rewarding, an expectation is created that such tasks will be forthcoming.

### *Managerial values vs. structural conditions*

The six team leaders in **Study V** recognize the disharmonious effects of the inspirational leadership-bureaucratic supervision conflict. However, the female team leaders seem more concerned with fulfilling their leadership roles than with managing the bureaucratic machinery. Sveningsson and Alvesson (2003) note similar struggles in managing identities in their study of

organizational fragmentation. They conclude that a crucial element is the struggle that exists between the demands of leadership and the demands of bureaucratic control. The female team leaders in this study express a more balanced identity construction of the real versus the ideal, while the male team leaders are more fantasy-oriented (see Alvesson & Empson, 2008; Sveningsson & Larsson, 2006).

Additionally, we found that the team leaders' narratives reflect both McGregor's Theory X and Theory Y of motivation. Again, some findings reflect the gender distribution of the narrators. The male team leaders, who think that subordinates are largely motivated by money and benefits (Theory X), seem to take less interest in promoting their subordinates' well-being. The female team leaders, who think that job challenge and work satisfaction motivate employees (Theory Y), work to create an environment where those interests may be satisfied. However, all six team leaders agree that the structure of the organization, with its inhibiting rules and procedures, defeats the autonomy, self-empowerment and ambition of the well-intentioned IT consultants. This view of organizational structure is consistent with McGregor's observations.

In summary, **Study V** suggests that the IT team leaders do not place a high priority on subordinates' motivation, largely because of structural impediments. This result is contrary to other research that finds that management should prioritize subordinates' motivation as a way to promote their well-being and improve their performance (e.g., Wallgren & Johansson Hanse, 2007).



## General discussion

The findings from the five studies are summarized and discussed in this section, followed by methodological issue comments, conclusions and research implications.

Why do we need motivated employees? According to Smith (1994), the answer is survival – motivated employees support the survival of the organization and motivated employees are more productive. This is a commonly shared attitude about the impact of motivated employees (i.e., motivated employees have a higher performance level) (e.g., Adams, 1965; Skinner; 1953; Vroom, 1964). Looking at the concept of motivation from another angle, which is a hypothesis in this thesis, motivation, as a part of the psychosocial work environment, affects perceived stress among employees. As mentioned in the Introduction, according to Alvesson (1993) motivational complexity is of great interest to the company. In order to promote the well-being of employees, management must address employee motivation concerns. Lindner (1998) seems to agree since he argues that the effective manager must understand what motivates employees within the context of their roles; of all the functions a manager performs, motivating employees is arguably the most complex.

I define “Motivators” (recognition, achievement, work itself (variety) and possibility of growth) as antecedent conditions that presumably lead to employee motivation (e.g., Hackman & Oldham, 1974; Herzberg et al.1959; Wegge et al., 2006). Furthermore, employee motivation leads to performance that in turn provides job satisfaction (e.g., Alvesson, 1993). The results from **Study IV** confirm that variety in tasks, job autonomy, praise for a job well done, the chance to acquire new skills, and the sense of accomplishment significantly affect IT consultants’ work motivation.

Knowledge-intensive firms (e.g., IT consultancy firms) need to have interesting and stimulating assignments for their employees that promote learning and development (Alvesson, 2004). **Study IV** confirms Pyöriä's (2005) conclusion that the real substance of work for most knowledge workers is the process not the product.

Job autonomy has long been recognized as an important factor in employee motivation and satisfaction (Hackman & Oldham, 1980; Herzberg et al., 1959; McClelland, 1987). Our findings confirm Swart and Kinnie's (2003) assertion that employees in knowledge-intensive firms also want a high degree of job autonomy. Unlike Kärreman et al. (2002), who find that the settings of knowledge-intensive firms are bureaucratic and hierarchical, the consultants in this study say they work in a rather permissive culture that allows them some autonomy although they also point out that this culture does not set and promote clear organizational goals. However, at the customer companies, the consultants' autonomy may be more restricted. We found that when a powerful customer makes demands on an IT consultant, job autonomy may be threatened (see Fincham, 1999). The consultant, as essentially an employee, must meet these demands (Dormann & Zapf, 2004).

The consultants in **Study IV** say that praise for a job well done is a highly motivating factor in their work. Their attitude toward feedback agrees with Venables and Fairclough's (2009) finding that positive and negative feedback have opposite effects on work motivation. However, in an IT consultancy firm, a problem arises owing to the peculiarities of the work environment. Since the consultants essentially work for the customer company, at some managerial as well as physical distance from the consultancy firm, it is the customer company who provides the feedback. The consultancy firm management must rely on the evaluations of the customer company before providing any praise (or criticism) to the consultants.

But what is a team leader's perception of employee motivation? The aim of **Study V** is to identify, describe and understand the team leaders' views of what motivates their subordinates. A main conclusion from **Study V** is that IT team leaders have rather vague ideas about the motivation of their subordinates. This is in line with the conclusion reached by Ahuja et al. (2007), when they found that managers at one IT consultancy firm had little knowledge of their consultants' work performance.

We understood this to mean that they did not consider employee motivation an important part of their job. The main task of leadership in consulting firms is to ensure that consultants are at work at customer sites; as a consequence, there is little time devoted to following-up on jobs or learning about factors that motivate subordinates.

All employees have different needs and thus are motivated by different things. Various motivating factors are mentioned by the team leaders in **Study V**, but the range of factors identified isn't as broad as one would expect. Even with teams of 15 to 20 consultants, the lists of motivational factors produced by the team leaders is rather limited. Kovach (1987) finds a similar result among 1000 employees and 100 managers in a study with samples taken from three occasions (in 1946, 1981, and 1986). In Kovach's study, the employees were asked to rank ten "job reward" factors in terms of personal preference (e.g., full appreciation for work performed and interesting work); the managers were asked to rank the job rewards as they believed employees would rank them. The most important finding, the comparison of the rankings, showed that the managers have a very inaccurate perception of what motivates employees. Kovach concludes that the managers' collective perceptions of factors that motivate employees haven't changed in the forty years his three studies covered.

The results from **Study V** show that the team leaders have rather vague ideas about their subordinates' motivation, with less interest in learning more

about, or in following-up on, employee motivation. Scheuer (1999) writes that in general employees are believed to be motivated by a range of different factors in work life. This conclusion is confirmed by the results from **Study IV** in which the IT consultants listed a broad set of motivators in the workplace. From a narrative perspective, we did not expect that the team leaders would mention all these motivators, but we were intrigued by how they reduced the complexity of the area.

One explanation for this finding is that team leaders in IT consultancy firms have rather vague ideas about the motivation of their subordinates, largely because they don't meet their subordinates on a daily basis. Understanding what motivates employees requires that managers make the effort to learn about their employees and/or that both managers and employees work together. In a study among 370 faculty members in agricultural education, Bowen and Radhakrishna (1991) conclude that employees must be willing to let managers know what motivates them, and managers must be willing to implement reward systems that motivate employees and to take actions that foster professional growth and development. In a study of the effects in the manager-subordinate relationship among 270 managers and 542 subordinates, Glasø and Einarsen (2006) argue for the importance of focusing on both the parties involved in such relationships. They find that the manager-subordinate relationship has an impact on the subordinates' job satisfaction. Moreover, when the work situation is unproblematic and straightforward there is no need for the managers to study the behavior of the employees. At the end of the 1950's even Herzberg et al. (1959) discussed the role that the managers have in relation to subordinates, their attitudes to the job and their motivational factors. One conclusion is that a manager should acquire greater skills in the organization and distribution of work. This conclusion applies to managers at all levels, from the foreman to the company president. According to Jackson

and Carter (1995), motivation should, in praxis, be understood at the individual level and not as a collective concept with its content prescribed by management theorists.

The reasoning developed above points in the direction of the implicit theories of motivation that managers have about their employees and the factors that motivate them. McGregor (1960) proposed two theories of motivation by which managers view employee motivation, referring to these nearly opposite theories as Theory X and Theory Y. According to McGregor, the manager's role is to organize people so as to best fit the purpose and goal of the organization. It seems to us that the IT consultancy firm of this study lacks a formalized way to obtain the knowledge about what motivates its consultants. Therefore we are unable to determine if the firm's managerial style is reflects either Theory X or Theory Y. This managerial situation is reminiscent of Mintzberg's (1973) exposé of the many managerial myths in which he showed that managerial work is momentary, fragmentary, and varying rather than far-sighted, strategically analytical and unvarying.

However, let us return to the initial discussion in this section about the fact that an effective manager needs to understand what motivates employees within the context of the roles they perform. It is very important to understand that organizational managers are responsible for job design and task assignment. According to Kelloway et al. (2004), managers have the potential to influence the content of the jobs.

One wonders if there is an inconsistency in the managerial work in IT consultancy firms. Mintzberg (1983) describes two organizational configurations: the professional bureaucracy and the machine bureaucracy. In a machine bureaucracy, it is typical to employ people with lower education levels and to assign them standardized work tasks. In a professional bureaucracy, the employees have high education levels, their skills are standardised and the work environment is complex. Furthermore, Mintzberg

(1989) distinguishes between two methods of managing a business; he labels these methods “thick” and “thin” management. Thin management is often used in a machine bureaucracy:

“ ‘Thin management’ remains distant from the subject of its effort, acting as if it moved pieces on a chessboard (the “portfolio” of business is one popular conception), making little effort to influence what those pieces really do, even how they relate to each other in any but the most superficial way” (Mintzberg, 1989, p. 354).

In contrast, thick management is “a management that intervenes deeply to influence and to integrate activities” (p. 355). In the context of IT consultancy firms, the team leaders cannot manage in thick ways since they have limited influence over the consultants’ work on a daily basis. Therefore, the inconsistency is that the consultants and the work environment in an IT consultancy firm are typical of a professional bureaucracy, but the managerial work is typical of a machine bureaucracy.

The social contexts in which identity formation and meaning occur reflect power relationships embedded in discourses and institutionalized organizational practices that shape how individuals define themselves as people (Wicks, 2002). “Institution” is a term that refers to such entities as regulatory structures, governmental agencies and professions, and to such concepts as public opinion and shared social meanings (Oliver, 1991). From an institutional theory perspective, the IT consultants are influenced by normative isomorphism (DiMaggio & Powell, 1983; Meyer & Rowan, 1977) – the theory that proposes that institutions in the same environment tend toward similar organization structure. According to Fernandez-Alles, Cuevas-Rodríguez and Valle-Cabrera (2006), normative isomorphism, as the response to the pressures experienced by professionals and consultants, may explain

the homogeneity among companies in certain managerial practices. Hence, in the IT consultancy sector, where very high work commitment and performance are expected, unregulated working hours are routinely more than 50-60 hours a week (Alvesson & Robertson, 2006).

Perhaps a significant explanation, however, of why the IT consultant is willing to work hard is his/her sense of responsibility to the customer company (Dormann & Zapf, 2004). This obligation may be increased by the subordinate relationship of the IT consultant to the powerful customer (See Fincham, 1999). The weakness of this position is underlined by the relative ease with which IT consultants may be replaced.

An interesting finding in **Study V** is the differences between two manager subgroups – the male team leaders and the female team leaders. In their narratives, the female team leaders present a more transformative view of their subordinates while the male team leaders present a more transactional view.

The female team leaders take a similar view of what motivate their subordinates and their possibilities' to influence them. This view can be interpreted as a transactional leadership style in which the leader behavior is aimed at identifying the unique growth and development needs of the subordinates as well as mentoring them. By meeting the emotional needs of their employees, transformational leaders encourage employees to look beyond their own needs and to focus instead on the interests of the group as a whole (Avolio, 1999; Bass, 1985).

Transformational leadership may be particularly useful for female leaders because it relies on behaviors that are consistent with the often-perceived female gender role of being helpful and understanding (Eagly et al., 2003; Yoder, 2001). According to Kark (2004), on the one hand, several studies focusing on transformational leadership note that women are perceived, and perceive themselves, as using transformational leadership

styles more than men. On the other hand, there have also been studies that have found no gender differences in transformational leadership. However, Kark concludes that even if the research results are inconsistent, they do indicate a tendency for women to be described, to some extent, as more transformational.

Another interpretation of the narratives is that the female team leaders have a higher degree of internal locus of control while the male team leaders have a higher degree of external locus of control. Locus of control refers to the individual's perceived capability to control events that affect him or her. Individuals with a high internal locus of control consider that procedures are a consequence primarily of their own behavior and actions, while those with a high external locus of control believe that others primarily influence procedures (Rotter, 1990).

Finally, the results from **Studies I, II and III** reveal factors that have an impact on IT consultants' perceived stress. In particular, this research shows not only that job demands and job control affect perceived stress, but also highlights the importance of high motivation in reducing the perceived stress among IT consultants. This thesis shows the importance of motivators in the job stress framework and suggests that broad stress interventions should address the origins of both individual and organizational stress in the workplace. It is important to improve working conditions for the prevention of stress. From a practical perspective, the findings from **Studies I, II and III** point to the necessity of making resources available when dealing with stressful working conditions. The design of healthy workplaces produces economic benefits in the long-run, in addition to producing beneficial effects on employee well-being. Stress prevention at the interpersonal level should address ways to improve managerial skills, in particular managers' awareness of stress by providing recognition and appropriate feedback to their subordinates.



The practical implication of these studies is that managers must find inventive ways to explore what motivates each employee and must create sustainable development opportunities as well as a productive and beneficial work organization.

Furthermore, in job stress models, such as the "Michigan Model" (Le Blanc et al., 2000) and the "Job Demand-Control Model" (Karasek & Theorell, 1990), the degree of stress is considered a consequence of job demands and job control. These models are assumed general. However, Pousette and Johansson Hanse (2002) compare a generic model with occupation-specific (i.e., multiple-sample) models across occupations (e.g., industrial white-collar workers and blue-collar workers). They find that values of model parameters vary across occupations, which may have important implications for the differentiation of prevention and intervention in different occupational contexts. This thesis takes the IT consultants' context into consideration in showing how certain job characteristics influence motivation and stress.

## **Methodological considerations**

The studies in this thesis, with the exception of **Study III**, are cross-sectional. The measurements in **Studies I, II** and **III** are limited to self-reports. According to Theorell and Hasselborn (2005), there is a common interpretation problem in psychosocial work environment research. The problem is that the self-reported assessments of the psychosocial work environment and of health are recorded at the same time in a cross-sectional study (i.e., problems with common method variance). The source of error is that self-reported data reflect individual characteristics – for example, people who complain about everything exaggerate problems related to the work

environment and to their own health. On the other hand, the results may be influenced by “the healthy worker effect” (Hernberg, 1992; Knutsson & Åkerstedt, 1992). This effect is a negative bias caused by health-based selection into and out of employment. The existence of such a bias leads to an underestimation of the occurrence of symptoms. According to Ahlbom et al. (1990), the healthy worker effect not only influences the frequency of reported symptoms but also leads to an underestimation of the true effect. However, among the IT consultants in **Studies I, II** and **III**, the staff turnover is low so the results should not be influenced by the healthy worker effect.

Another problem is that, since a cross-sectional study is based on working conditions and health performed at the same time, it is impossible to know whether the assessment of the exposure is a consequence of something from the previous year or the previous week (Theorell & Hasselborn, 2005). Theorell and Hasselborn conclude that cross-sectional self-report assessments of psychosocial conditions and health have an important role in stress research. Furthermore, they think that a number of studies using subjective assessments of the psychosocial work environment have been “validated” by objective assessments (using the method of triangulation). However, the use of the self-reported work environment is based on the fundamental principle that people know their own problems best, and therefore they should be encouraged to speak for themselves (Levi, 1987; Rubenowitz, 1997). The individual’s perception of his/her working conditions must be considered if one is to obtain a good picture of how work influences perceived stress. Jewell (1998) also presents the same argument in relation to measuring experienced job satisfaction.

In addition, the hypotheses concerning job demands, job control, motivators and perceived stress are theoretically based on earlier research and, as such, are considered plausible. However, the proposed model in **Studies I** and **II** is only an “as if” model of causality (Kline, 1998); other

patterns of causality (e.g., reversed or reciprocal) may also be plausible. It is possible that perceived stress may cause a person to believe his/her workload is higher, that the perceived stress influences his/her perception of motivators, and that the lack of motivators causes him/her to perceive his/her job control as lower. The data in **Studies I and II** are cross-sectional, which implies that the relationships observed cannot be interpreted causally and need to be replicated longitudinally.

It is essential to evaluate whether the association is causal or only a so-called statistical association. There are some general criteria for the judgment of causality. One of the most important criteria is that the cause must precede the effect (i.e. temporality). **Study III** is therefore an important contribution (compared to the cross-sectional studies). To the best of my knowledge, there are no longitudinal studies among IT consultants where the relationship between job characteristics, work motivation and stress are investigated. However, since there were only two waves in **Study III**, the mediating hypotheses cannot take sequential aspects into full consideration (i.e., one part of the structural model must necessarily be cross-sectional). Cole and Maxwell (2003) claim that when a study has only two waves “all is not lost”; they present a framework for testing hypotheses of mediation using longitudinal data with two waves. For future studies, it could be useful to use longitudinal designs that include at least three waves in order to fully test the mediating role of motivators.

All constructs share the limitation of being self-reported measures. Thus they are limited by the participants’ perception of their working conditions. However, these constructs were modeled by specifying a measurement model. The measurement model specifies the relationships between the manifest variables and the latent variables. Confirmatory factor analysis was used to test and evaluate the construct validity of the measurement model. In practice, it is convenient to refine the measurement model before the complete model is

fitted to the data, for example, by using modification indices. The findings demonstrate that the proposed four-construct model has adequate construct validity. Based on previous research, we also think that the questionnaire has good content and face validity (Kjellberg et al., 2000; Kjellberg & Wadman, 2002; Pousette & Johansson Hanse, 2002; Rubenowitz, 1997; Theorell et al., 1988; Weiss et al., 1967). Moreover, the use of multiple measures (manifest variables) for each construct (latent variable) tends to reduce the effect of measurement error (Kline, 1998).

The two waves in **Study III** were applied at an interval of six months. Since the IT consultants' work situation frequently changes, we believe that it would be inappropriate to have a much longer interval between the two waves. However, the optimal time lag is somewhat unclear.

In **Study IV** we take a qualitative approach. This approach is appropriate for smaller samples in which detailed stories can widen our understanding of a specific topic (Elliot, Fischer & Rennie, 1999). We admit a small sample limits the generalizability of results to a larger population, but the tendency to apply quantitative criteria to qualitative studies should be avoided (Elliot et al., 1999). Our goal is not to generalize about the work motivations of IT consultants but rather to illuminate this relatively unexamined area. Thus our results suggest possible work motivations among selected IT consultants. Despite Jewell's (1998) claim that motivation is a hypothetical construct and therefore difficult to study using qualitative methods, we agree with Morrow (2007, p. 211) who states: "Qualitative methods can be used to explore variables that are not easily identifiable". Since the aim of this research is to investigate the attitudes and experiences around work motivation in a select population, a qualitative method is the most useful approach to study the meanings people make of their experiences (Morrow, 2007).

We understand that our choice of method has limitations. In taking a qualitative approach, the researcher has to be aware of the possible effects of his/her preconceptions and beliefs on the results. According to Haverkamp and Young (2007), a researcher should approach qualitative topics without strong preconceptions and from a wide generalist position while still recognizing that it is impossible to approach a research topic without beliefs and preconceptions: “The researcher always has some foreknowledge of the phenomenon that is the target of inquiry” (p. 285). In this study, particularly because the author who conducted the interviews has extensive experience in IT consultancy, we took special care to be objective in conducting and analysing the interviews. Therefore, we limited our study to self-reports from the interviews. The reliability of self-reported evidence is confirmed by the fundamental principle that people know their own problems best and should be encouraged to speak for themselves (Levi, 1987; Rubenowitz, 1997). The individual’s perception of working conditions must be considered if we are to learn what motivates him/ her.

**Study V** presents a case study of six team leaders at one firm. It can be argued that this focus limits the generalization of the findings. However, we emphasize that this firm is representative of other IT consultancy firms. Among such firms, there is a great similarity in organizational structure, in management responsibility and in work assignments with statutory employees performing tasks at customer companies. However, the particularity of this case study, with its equal subgroups of male and female team leaders, limits its generalization to some extent and can only be interpreted as a (empirically-based) theory concerning male and female behavior (Langemar, 2008). In one sense, the broad sweep of the study increases our understanding of managers’ views on employee motivation in the area of knowledge firms. However, in a more specific sense, the study illuminates the differences men and women

have of employee motivation in this area and we will generate a hypothesis to test in a larger representative sample more than draw a general conclusion.

## Conclusions

The main findings and contributions of this thesis are multiple. First, as very little research has been published about the work conditions, work motivation and health of IT consultants, this thesis may enhance our knowledge of the IT consultants' work environment. Moreover, with our empirical testing and discussion of the concept of "motivators", the thesis may add clarity to the definition of work motivation.

The results from **Studies I, II and III** indicate good consistency, which speaks in favour of causality. Furthermore, parts of the research model include a two wave measurement method. A similar structural equation model and similar structural components were used in the three studies; similar questionnaires were also used, including, for example, the term "motivators". The results point to the importance of motivators (e.g., responsibility, recognition, achievement, possibility of growth) among IT consultants in the job stress and performance framework. If a healthy work environment cannot be provided at the individual level, over time this environment will have implications at the organizational level (Hansen et al., 2009; Maslach, 1998). Furthermore, it seems reasonable to conclude that the characteristics of job demands and job control are important factors in explaining the genesis of perceived stress among IT consultants. Moreover, in **Study IV** the motivator of reciprocal loyalty reflects the relational contract since the IT consultants may be loyal to the consultancy firm, the customer company, the task/project and/or their colleagues. In addition, the construction of the IT consultant's

identity affects his/her work behavior, reflects his/her interaction with the customer company, and defines the self in terms of work.

Second, since managers have a substantial influence on the work environment there is an incentive for management in an IT consultancy firm to increase the consultants' motivation as it relates to the consultancy firm. However, the subject of IT managers' understanding of, and interest in, their subordinates' motivation has not been thoroughly investigated. These particular work motivation issues, the IT consultancy first-line managers' perception of their subordinates' motivation and "the knowledge of the other's motivation" have not been deeply researched. The investigation of these areas is another contribution of this thesis.

The turnover of IT personnel may involve a high replacement cost, in particular the possible loss of tacit knowledge (Kaplan & Lerouge, 2007). Hence, an understanding of work motivation is crucial to the successful management of knowledge work organizations (Amar, 2004). A good understanding of subordinates' motivation involves two issues. The first issue concerns the nature of subordinates' motivation. This study, which informs IT consultancy firm team leaders of factors that affect their consultants' work motivation, concludes that several motivators depend on the interaction between the consultants and the customer companies. IT consultants, working off-site at various customer workplaces, develop a loyalty to the customer as well as to their own consultancy firm. The second issue concerns managers' ways of working with subordinates' motivation. When a workforce is complex, fragmented and physically remote, it is essential to learn how to motivate an organization's members (Jackson & Carter, 1995). Management of knowledge workers is loosely structured with changeable project teams and a low degree of monitoring and control (Alvesson, 1995). **Study V** suggests that the IT team leaders do not place a high priority on subordinates' motivation, largely because of structural impediments. This result is contrary

to other research that finds that management should prioritize subordinates' motivation in order to advance their well-being and improve their performance. However, all team leaders in **Study V** agree that the structure of the organization, with its inhibiting rules and procedures, defeats the autonomy, self-empowerment and ambition of the well-intentioned IT consultants.

Hence, one interpretation from the results in this thesis is that the perception of intrinsic motivation and extrinsic motivation among IT consultants is rather basic and similar as other occupational groups, but interactive motivation factors – norms, reciprocity and identity – are more specific and important for this occupation. The IT consultants are committed to norms that support the consultancy firm and its activities; therefore they follow workplace standards of organizational behavior. Moreover, reciprocity of mutual benefit is the core of the functional exchange relationship between the IT consultants and their firm. In exchange, they receive benefits such as work autonomy, which motivates them to work hard and well. Furthermore, in terms of a collective social identity, the IT consultants' social interaction plays an important role in their work motivation. The motivation among IT consultants is influenced by the social context of the work group – the team leader, their colleagues and various others in the organization – that communicates norms and culture.

Finally, IT workers live at the edge of change such as new technologies and methods. They require a high degree of flexibility and adaptability. A study of today's IT workers may generate important lessons for managing the general workforce of tomorrow (Kaplan & Lerouge, 2007).



## Recommendations for future research

The impact of psychosocial work environment on employees' health has been the subject of several studies (e.g., Dallner, 1999; Groot & Maassen van den Brink, 1999; Jacobsson et al., 2001; Kecklund et al., 2002; Rafferty et al., 2001; Searle et al., 1999). However, there are few studies that describe the working conditions of IT consultants. **Studies I, II and III** show that job control has a significant impact on motivators. According to De Lange, Taris, Kompier, Houtman, and Bongers (2003), one goal of occupational health research is to define the causal sequence of the relationship between work environment and well-being. De Lange et al. (2003) find there is good reason to pursue longitudinal research. To the best of my knowledge, there are no longitudinal studies among IT consultants that investigate the relationships among job characteristics, work motivation and stress. However, since there were only two waves in **Study III**, the mediating hypotheses cannot take sequential aspects into full consideration (i.e., one part of the structural model must necessarily be cross-sectional). For future studies, it could be useful to use longitudinal designs that include at least three waves in order to fully test the mediating role of motivators. It would also be interesting to test if there is any difference across different populations (e. g. gender and age).

**Study V** presents a case study of six team leaders at one firm (with equal subgroups of female and male team leaders). It may be argued that this small sample limits the generalization of the findings. For future studies, it could be useful to study a larger sample of team leaders from different IT consultancy firms. It should also be useful to extend the understanding of such team leaders' perception of work motivation by asking them about their own motivational factors at work. Moreover, such a study could look at how

team leaders manage IT consultants so that the IT consultants' built-in complexities and dilemmas are taken into account.

Finally, I believe it is possible to acquire a deeper understanding of IT consultants' appraisal of work motivation by studying the interaction between the consultants, their team leaders and the customers more directly. For example, what effect do team leaders' decisions on task distribution and task follow-up have on the consultants' motivation? Or what effect do customers companies' restrictions and supervision have on consultants' motivation? In exploring such questions, researchers could examine typical micro-situations in the everyday work environment.

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