

# Net workers

Work, Health and Competence  
among Interactive Media Workers

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## Preface

The purpose of this report is to give a picture of ‘Net workers’, short for people working with the development of Internet solutions. We describe the working conditions in companies specialised in producing interactive media solutions for the Internet, CD-Roms, DVDs etc., sometimes called multimedia or Internet consultants, web bureaux, or ‘new media’. To our knowledge, no prior individual level quantitative study aimed at these workers exists in Sweden.

The research is part of the MITIOR programme (Media, IT and innovation in organisation and work), headed by Åke Sandberg. Other members of the research team for the Net-workers study have been Fredrik Augustsson (PhD student), and Gabriela Maguid and Karin Darin (research assistants). The MITIOR programme is placed at the Arbetslivsinstitutet (NIWL) and the Royal Institute of Technology, KTH School of Computer Science and Communication. At Arbetslivsinstitutet the programme is part of the Department of Work and Health and the research theme Working lives in urban areas.

This study of net workers started within a NIWL programme for development in the Bergslagen region with professor Casten von Otter. His support was crucial for our project to survive also after the Bergslagen programme was made part of another research department. Later, in the Department of Work and Health, we have found a new fruitful work environment. Apart from basic funding from the NIWL, the survey work was supported and financed by Sif (a union for employees within industry) and in some part by the government’s IT Commission, and the Stockholm City Economic Development Agency (SNK). We want to thank Caroline Söder at Sif, Christer Marking at the IT Commission and Christer Asplund and Barbro Berg at SNK. We also thank Hasse Samuelsson and Anna Svärden Ahlander of the trade association Promise and Malte Eriksson and Magnus Drougge of GF (Printers’ and media union). The moral and economic support of these persons and organisations made the fulfilment of this study possible, although at a low pace due to limited resources.

Apart from money, cooperation with the field of interactive media production was a necessary precondition for our research. We want to thank warmly both the managements of the roughly 60 firms that we studied, and the more than 80 percent of workers in those firms, who so willingly responded to our long questionnaires. You cooperated in spite of the fact that many went through difficult processes of restructuring at the time of our survey. We hope our results will be useful for you, as well as for the sector.

Thanks also to our colleagues at the NIWL for their assistance during the process of constructing the questionnaire, especially Michael Allvin, Gunnar Aronsson, Margareta Dallner, Lennart Hallsten, Annika Härenstam, Klas Gustafsson, Tomas Lindh, and Anders Wikman. We also discussed our survey questions with Susan Christopherson at Cornell University, New York, and Magnus Sverke, Stockholm University. Tommy Lindqvist, now at SCB (Statistics Sweden) had an important role in the first part of the development of questionnaires. Lennart Hallsten, Bo Melin and Allan Toomingas gave helpful comments at a seminar where a preliminary version of this report was presented. Lennart Hallsten was a commentator and also provided us with certain comparative data.

Our thanks also to the following persons who work professionally with web design and with whom we discussed and tested our questionnaires Lisa Karlsson, Johannes Hylander, Jan-Ola Edman and others at Sif and Anette Franz and Henrik Lindborg at the NIWL.

This report is available in print and as pdf file at [www.ali.se](http://www.ali.se).

Stockholm in November 2005

*Åke Sandberg*

Professor

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## Introduction

There has been a wide interest in the proclaimed changes in contemporary working life (e.g. Rifkin 1995). Such changes have been related to a third industrial revolution (Magnusson 2000), or an informational society based on the fundamental role of information and communication technologies (Castells 1996). In the public debate one talked about a 'new economy', and some (business) economists argued that new laws ruled the economy. Although the interest in the new economy has somewhat faded, there is still a belief that the working conditions for employees within it differ from working life in general. It is often stated that working life will be more flexible and have less sharp boundaries between work and private life, and looser connections between employees and workplaces (Ahrne and Papakostas 2002; Sennett 1999). If this is the case, it may increase pressure on individuals to become employable entrepreneurs responsible for their own future on the labour market (Garsten and Jacobsson 2004; du Gay et al 1996). Working conditions in the new economy may be indicators of what increasing parts of working life might look like in general in the future (Tapscott 1996; Castells 2001; Himanen et al 2001) because knowledge intensive sectors are growing (Bell 1976) although all jobs will not be like interactive media production of course (Ransome 1999).

This report contains the results from the first Swedish survey directed to employees within one part of the so-called new economy - those working in companies specialised<sup>1</sup> in producing interactive media solutions, i.e. digitally based, interactive multimedia solutions for the Internet, CD-Roms, DVD etc. Apart from describing work processes, tasks and organisation, we discuss issues of competence development and of health, the latter guided by earlier research at the institute on the flexibilisation of work. The survey was conducted in autumn and winter 2002/2003, that is after a couple of years of 'shake-out' of companies, and thus of workers. The respondents thus to some extent may be regarded as survivors (having worked several years) in surviving companies.

The report is mainly descriptive, but some comparisons between subgroups as well as other parts of working life are made. Going beyond descriptions it is a complex task to interpret the reasons behind and meaning of differences between subgroups based on firm and individual level factors, especially since causes often are not possible to find within the statistics themselves (Fleetwood and Ackroyd 2004). Generally, we do not attempt to explain here the social mechanisms and structures causing these differences. Rather, we report the observed differences and in some cases offer preliminary hypotheses behind them.

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<sup>1</sup> Those companies are specialised in interactive media development in the sense that a main activity is to produce such solutions for external customers.

## **Interactive Media Workers and Firms**

The report portrays workers in Swedish firms producing interactive media solutions for external customers, as opposed to those working with in-house production in Swedish firms in general which is the focus of another study (Augustsson and Sandberg 2004b).

### *Technology*

By interactive media solutions we refer to solutions that are digital, multimodal (include several media) and make it possible for users to interact with the solution. Examples are web pages, e-business solutions and computer games. The solutions can be either offline (e.g. CD-ROMs, DVDs), online (Internet, intranets), wireless (WAP, 3G), or a combination. Other names for similar phenomena are multimedia, or new or digital media (compare Ambron 1988; Elsom-Cook 2001; Manovich 2001; Lievrouw and Livingstone 2002).

### *Workers and Firms*

Interactive media workers are here defined as all those directly or indirectly active in producing interactive media solutions for external customers within specialised firms. This includes owners and partners, managers, permanent and fixed time employees, as well as freelancers. Two excluded groups are worth pinpointing here. First, all workers within specialised interactive media producing firms that are *not* involved in interactive media production. Second, workers involved in inhouse interactive media operations within Swedish organisations in general.

Comparisons between subgroups of interactive media workers are made where relevant, especially between owners and management (who are often the same group) on the one side, and the large group of permanent employees on the other. The reason to single out these groups is that they form the vast majority of workers and hence other groups, i.e. freelancers and fixed time employees, are so few that statistical calculations become too uncertain (cf. Agresti and Finlay 1997).

By specialised interactive media producing firms, we mean firms that are involved in producing interactive media solutions for external customers, most often other companies. These firms might have a background in other business areas than interactive media production and they may still be active within one or more other areas, usually e.g. advertising, graphics production or general IT-consulting. As shown in Sandberg and Augustsson (2002), the specialised interactive media producing firms are generally small and often quite newly started, most of them sometime during the 1990s.

These are knowledge intensive firms sometimes characterised by ad hoc or lack of structures apart from current development and production projects (cf.

Alvesson 2004), which are usually handled together with other firms, i.e. subcontractors and subcontracting firms. The specialised firms are to some extent characterised by a flexible specialisation, meaning a shifting division and integration of labour between a number of firms within geographically clustered production networks of which customer organisations might also be a part.

### *Interactive Media Production, the IT-sector and the New Economy*

Some of the firms that produce interactive media for external customers have been around more than fifty years and have produced interactive media for more than twenty years. But the interactive media producing sector is largely part of and identified with the merger of media and modern computer based IT through digitalisation, exemplified with the commercialisation of the Internet in the early 1990s (Mattsson and Carrvik 1998; Hamngren and Odhnoff 2003). The interactive media producing firms do not make up a separate industry or market in the traditional sense of the word. It can rather be thought of as a social field comprised of a number of internally different firms involved in a shared practice, the production of interactive media solutions (Augustsson 2004). Given this, the size of the sector in terms of the total number of firms, employees and revenues is hard to determine. Based on previous studies, our estimates is that the number of firms in Sweden was around 600 in 1997, increased to between 750 and 1,000 in 2001 and then has decreased after the burst of the Internet bubble and during the following dotcom crash, perhaps to the same levels or even lower than it was in 1997. Since the current study, conducted in 2002/2003, is based on a sub sample of firms from the 2001 study, we cannot determine the current number of firms with any acceptable accuracy. Based on attempts to locate and contact firms for this study, as well as media publications, it is clear that the number of firms has gone down, although we cannot say with how much.

In a broader sense, the social field of interactive media producing firms is usually considered to be part of an intersection of the media, IT and to some extent management consulting sectors. This places them more or less in the centre of the so-called new economy, for which some of the inherent firms and their founders, e.g. framfab and Icon Medialab also came to function as symbols (e.g. Stael von Holstein 1999; Uvell 1999; Willim 2002; Ågerup 2002). The term the new economy, spurred as much by stock market valuations and beliefs in a new economic revolution as by technical advances, has fallen from grace after the burst of the Internet bubble and was probably not the most fortunate one to begin with (Perkins and Perkins 2001). It did however create a hype around these companies and workers as different from most of the rest of working life, the 'old economy' (Lennstrand 2001; Pettersson and Leigard 2002).

## Outline

The report continues with a synopsis of the research design. This is intended to give readers a short introduction to the empirical data the report is based on. A detailed description of the design of the study can be found at the end of this report.

The brief description of the research design is followed by a presentation of the results, which forms the major part of the report. The results cover the following areas: the labour force; the individuals' job situation; their career paths; education and competence; work and private time; work demands and control; health and sickness absenteeism; salaries and other rewards; and unions and agreements. The report ends with a concluding discussion in which the empirical results are summarised and put into a wider perspective.

## A Brief Note on Method

A more detailed description of the design of this study, including questionnaire design, population and sampling, data collection, response rates and analyses of non-respondents, can be found at the end of this report. We strongly advise readers to consult it before drawing further conclusions on the results presented here and the firms and workers they represent. Here, we only give an introduction to the methodology used in order to guide readers through the report.

This report is based on a survey conducted during winter 2002 and spring 2003 and directed to interactive media workers active within a sample of firms that produce interactive media solutions for external customers. The sample of firms is taken from the 348 respondents to the MITIOR programme's firm level survey conducted in 2001 (see Sandberg and Augustsson 2002), and a few additional firms provided by the trade organisation Promise. All managers who agreed to let their workers participate in the individual level survey have also been asked to fill in a firm level questionnaire in order to update our information from 2001.

57 firms with a total of 454 interactive media workers agreed to participate in the study. 371 interactive media workers (82 per cent) responded to the individual level survey and a total of 53 managements, 93 per cent of those that agreed to participate in the survey, filled in the firm level questionnaire. According to our calculations, the firm level respondents do not deviate from the non-respondents or total population regarding geographical location, number of employees, annual turnover, age and business activities, i.e. there is no statistical bias in these respects. At the individual level, there is no bias concerning e.g. gender, age and position of workers.

The individual level survey for workers was partially based on different well tested questionnaires previously used in several studies, within mainly the

Department of Work and Health at the NIWL, especially questions concerning health, which will make it possible to make comparisons between interactive media workers and other types of workers and sectors.

Questions focussed specifically on issues related to interactive media production and work are based on our previous firm-level surveys, as well as studies of interactive media workers in other countries (e.g. Batt et al 2001). The firm level questionnaire directed to management is more or less identical to the one used in the 2001 firm level study (Sandberg and Augustsson 2002), although some minor alterations have been made in some cases.

## Results: Interactive Media Workers

As stated, the results presented here are intended to give a picture of the people working in firms specialised in producing interactive media solutions, their competencies, careers, working conditions and health situation, and union involvement. Some cross tabulations are made in order to highlight internal differences between various groups of employees, such as women and men, unionised and non-unionised workers, workers in larger cities (Stockholm, Göteborg, Malmö/Lund) and in other parts of Sweden.<sup>2</sup>

We know of no prior individual level surveys to interactive media workers in Sweden, meaning that changes over time cannot be determined. In some cases, e.g. career trajectories, we have tried to overcome this by asking retrospective questions concerning previous conditions. Some studies have been made outside Sweden, e.g. in New York (Batt et al. 2001), but due to a number of factors (time of study, institutional factors such as labour regulations, levels of unionisation, historical development, etc.), the results from these studies cannot be easily translated to Swedish conditions. For example, the New York interactive media labour market is characterised by having a much higher labour turnover than Sweden, with firms sometimes functioning as little more than temporary havens for employees (Augustsson 2002).<sup>3</sup>

Due to different structural preconditions, the presence of a configuration of different actors and because the development of interactive media production has taken such different trajectories in different countries and regions, it is sometimes hard even to make fruitful comparisons (Braczyk et al 1999). The German interactive media sector, for instance, seems to lie closer to the cultural industries whereas the Swedish and Finnish (Pelkonen 2003) sectors are closer to telecommunications and to general organisation consultation firms.

### 1. The Labour Force

In some respects, the interactive media labour force differs from Swedish working life in general, mainly by being younger, male dominated and having few workers with an immigrant background. Working life in general is, however, diverse in itself. For instance, although often presented as relatively gender egalitarian, Swedish working life is characterised by an unusually high level of gendered division of labour, which becomes more apparent as more

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<sup>2</sup> Interactive media is largely an urban phenomenon. Göteborg, Stockholm, and Malmö/Lund comprise half of all firms in Sweden (Sandberg and Augustsson 2002, Sandberg 1999).

<sup>3</sup> Results here and elsewhere from the New York study must be treated with caution, due to the low response rate received in that study.



detailed analyses are made, going for example from sector, via job to task (Hultin 2001; Nermo 1999; SOU 1998:6). Since interactive media is a young sector and we have found no prior Swedish surveys of its employees, the possibilities of detecting trends in labour force changes are limited. It is thus hard to determine whether there will be more women, people with an immigrant background or an aging workforce in the future interactive media labour market. Some individual level changes are, however, reported further down in relation to the career paths of interactive media workers.<sup>4</sup>

## Age

The average employee working with interactive media was born in 1967, the median being 1969. This means that at the time of the survey the average interactive media worker was 36 years of age. The work force is not evenly distributed though; nearly half of the employees were born in the mid 1970's, meaning they were around 30 years of age at the time of the study. The average age of owners and partners is 38, as compared to 35 among permanent employees.

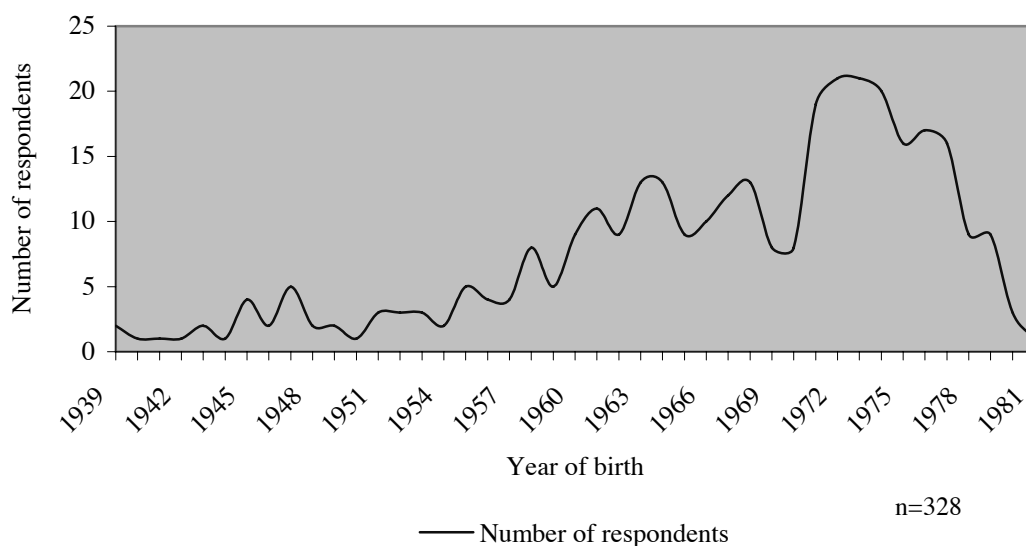
In the working population in general the average age is 43 years, and among a group of 'technical specialists' (with theoretical specialist competence within technology, computer science etc.) the average age is 39 years. Interactive media workers are thus, corresponding to the popular image, rather young, but not exceptionally so; technical specialists are on average just three years older. For some variables later in the report we make comparisons of this type. In so doing we use data kindly made available to us by Lennart Hallsten and colleagues at the NIWL. Their study is based on a sample of the Swedish population aged 18-64 years, and here we limit the calculations to the working population.<sup>5</sup>

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<sup>4</sup> The descriptions of individual level changes are logically limited since they only describe the background (as well as future hopes) of those that work with interactive media at the time of the study. There is no available information on the individuals that have previously worked with interactive media, but do not at the time of the study. One should therefore be cautious when drawing conclusions regarding the paths leading to a job in interactive media.

<sup>5</sup> Hallsten's study was carried out in the year 2000. The figures we are presenting here and below are calculated specifically for our report and have not been published elsewhere. A presentation of the study is found in Hallsten et al (2002). We sometimes compare with figures not only for the working population in general but also for a group of technical and computer specialists (with university education), code 21 in a classification of occupations (SSYK).

**Figure 1.** Age distribution of the Swedish interactive media workforce.



The above findings support the general view that the interactive media labour force is young, at least within specialised interactive media producing firms. Findings from our survey directed to the management of larger Swedish firms and government agencies that produce interactive media in-house indicate that the average age among their employees working with interactive media is higher, roughly 40 years of age (Augustsson and Sandberg 2004b).<sup>6</sup>

When comparing the age distribution of workers in interactive media firms between different geographical areas, we find no notable differences. The average age in urban areas is 36, as compared to 37 in the rest of Sweden. Thus, young interactive media workers is not a specific urban phenomenon<sup>7</sup>.

## Gender

Interactive media production has been depicted in the media as a typically male dominated realm, despite the hopes of some that the interactive media sector, as

<sup>6</sup> Precise comparisons cannot be made as the results of the study of in-house interactive media production mentioned above are based on managements' estimates and not individuals' own reported age. Still, by comparing firm-to-firm level surveys (i.e. the age reported by managers in specialised firms and organisations in general with inhouse production, respectively), it seems clear that interactive media workers in specialised firms are younger than those in in-house interactive media production (33 as compared to 40 using managers estimates).

<sup>7</sup> The urban areas are here and elsewhere in the report defined as Stockholm, Göteborg and Malmö/Lund, i.e. the three largest urban regions in Sweden.

a new field of work, would not show the gendered division of labour consistently found in traditional parts of working life. However, the extent of gender segregation (meaning male dominance) is somewhat exaggerated. There are quite a few women working with interactive media production, but they do not always occupy the most visible positions (Augustsson and Sandberg 2004b). Our findings here show that 68 per cent, roughly two thirds, of the labour force are male and hence one third or 32 per cent female. If the results are weighted according to managements' estimates of the number of employees that work to some extent with interactive media within each firm, the proportion of women interactive media workers increases to 39 per cent and men fall to 61 per cent. This suggests that women workers' representation is higher in larger firms. Among owners and partners, 89 per cent are men compared to only eleven per cent who are women. Put differently, 33 per cent of male workers are owners or partners, as compared to nine per cent of female workers (compare figure 15 below). In the Swedish working population in general 50 per cent are women, and among technical specialists 32 per cent<sup>8</sup>, that is a bit less than within interactive media.

In public debates about regional differences in labour market opportunities in Sweden, it is sometimes argued that gendered pressures and patterns of behaviour, including choice of education and occupation are higher in rural areas, meaning that women and men to a larger extent are forced into and/or choose more traditional roles and occupations. It has been argued that people that want to break free from these traditional roles, and especially women, are forced to move to larger city areas. Here, we cannot conclude any such general gendered movements of the labour force. We do however find that the proportion of women and men does not differ noticeably between major urban areas with 33 percent and the rest of the country with 31 percent.

Applying concepts from other empirical studies of labour market and occupational sex segregation, e.g. (Hultin 2003), interactive media production would be categorised as a mixed occupation, for both in-house production and specialised firms<sup>9</sup>. Still, although it is a gender mixed occupation, there is a considerable gendered *vertical* division of labour reflected by the higher proportion of men among owners and managers. Although included in the interactive media sector, women are generally excluded from senior positions.

The proportion of women workers is considerably higher than what we found in our firm level survey to managers in the same population of interactive media firms in 2001, where the average percentage of women was reported to be 18

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<sup>8</sup> Based on the study by Hallsten et al (2002).

<sup>9</sup> Hultin (2001) defines a mixed occupation as one where both sexes account for between 30 and 69,9 per cent of the labour force, respectively, i.e. no sex occupies less than 30 or more than 70 per cent of the jobs within the occupation.

per cent. (Sandberg and Augustsson 2002). This difference cannot be accounted for by a proportionally larger response rate among women, they make up 32 per cent of the population as well as of the sample (based on the names of the individuals in the population and those that responded to the survey). Alternative explanations for this difference in the reported proportion of women might be that (usually male) managers ‘forget’ about some of their women employees. It can also be due to differences in how managers and (female) workers identify themselves and their working tasks: whereas female workers identify themselves as working within interactive media because that is (one of) the business areas of the company in which they are employed, some managers might feel that although they are employed within the firm, they are not involved in interactive media production since they to a larger extent handle working tasks that are not viewed as the core of interactive media production, such as administration.

Given that interactive media production is partially identified as a technical kind of job and the known domination of men in most technology-intensive sectors of the labour market, 32 per cent women cannot be regarded as surprisingly low, but perhaps problematic.

A significant factor contributing to the relatively high proportion of women is that besides being a job with technical aspects, interactive media production also encompasses aesthetic and economic aspects (Augustsson 2004), areas where women are generally represented to a greater extent than in the technology dominated areas. To this should be added that the proportion of women students in technically oriented university courses and programmes has increased over time, especially within computer related areas (perhaps because they are perceived as less ‘machine’ dominated and male oriented than some other technical and engineering courses). This increase in women representation has come to a halt after the dotcom crisis (Högskoleverket 2004). In the autumn of 2005, there was not a single female qualified applicant out of a total of 100 to the civil engineering programme focussed on IT at the KTH Royal Institute of Technology in Stockholm.

It should be noted that the figures above, as well as all others within this report refer to workers who have stated that they are involved in the production of interactive media in some way, including management, sales, personnel and administration. Other employees within the firms are not included, which is also one reason why absolute numbers (n) are seldom equivalent to the total number of responses to the individual level survey (i.e. 371). Considering that e.g. administration is sometimes considered to be part of interactive media, it is reasonable to ask what other employees there might be within these firms, i.e. who are not working with interactive media production? As discussed in the introduction, specialised interactive media producing firms refers to firms that

produce interactive media solutions for external customers. These firms are quite often also involved in other business areas as well. Some employees might, for instance, be involved in advertising, programming or graphic design, but not as part of the production of interactive media solutions.

### **Ethnicity and Immigration**

Previous studies conducted within the MITIOR programme have shown that people with an immigrant background tend to be excluded from working in the interactive media sector (Darin 2003). These findings are supported by the results found in this study. 93 per cent of the interactive media workforce is born in Sweden, two per cent in any of the other Nordic countries (Denmark, Norway, Finland or Iceland), one per cent in the EU outside of the Nordic countries and three per cent outside of Europe (see figure 2). In the Swedish workforce at large, and also among technical specialists, ten per cent are foreign born, thus more than the seven per cent within interactive media.<sup>10</sup>

Of those interactive media workers who were born outside Sweden, the average year of arrival in Sweden is 1978, i.e. roughly 25 years before the time of the study. The reason why people with an immigrant background are excluded from working with interactive media production in Sweden can thus hardly be their short period of stay in the country and problems related to this, such as language difficulties.<sup>11</sup> Rather, it seems to be a result of the distinction of immigrants as well as the perceived view that immigrants have lower social positions than Swedes, which indicates that they differ from the prescribed norm (i.e. have a different habitus) than interactive media workers and therefore are harder to trust (Darin 2003). Our results from previous studies show that despite talks of IT as one of the causes and most notable features of globalisation, the Swedish interactive media sector is highly domestic. This means that any 'cultural' or 'ethnic' advantage people with an immigrant background might have (Nordström and Ridderstråle 1999; Miller and Slater 2000) only concern others with a similar background in Sweden. Ethnic markets seem to be a rather limited phenomenon in Sweden, at least when it comes to e-commerce and firms and other organisations that want to market themselves towards immigrants through the Internet.

The exclusion of people with an immigrant background reported here only accounts for work in companies that specialise in producing interactive media solutions for external companies. Like the situation for female workers within firms and government agencies that produce their own interactive media in-

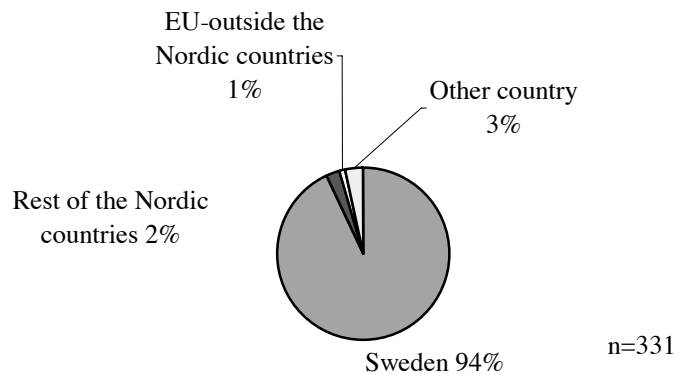
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<sup>10</sup> Based on Hallsten et al (2002).

<sup>11</sup> A minor proportion of immigrants do not know the Swedish language after 25 years in the country. Most of them are however probably not eligible for work in interactive media production anyway due to e.g. old age or lack of education.

house (Augustsson and Sandberg 2004b), it might be that the chances for a person with an immigrant background to get a job within interactive media production is higher in such organisations. This was however not asked in the study of inhouse production, making direct comparisons impossible.

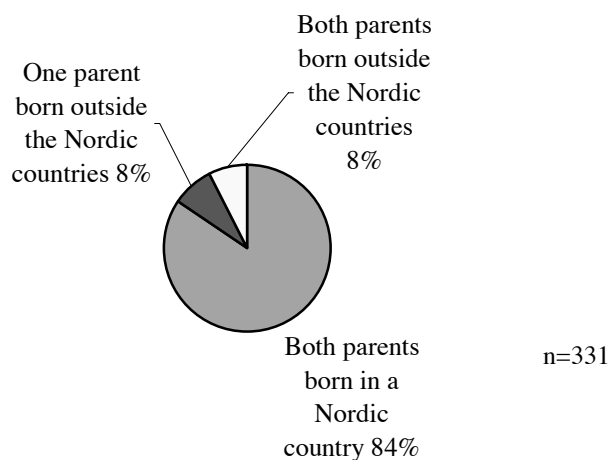
**Figure 2.** Country of birth among the Swedish interactive media workforce.



Figures for urban areas and the rest of Sweden reflect national ones. Eight per cent of the interactive media labour force in larger cities was born outside Sweden while the figure for the rest of Sweden is only marginally lower, six percent. The proportion of the total working population in the country is almost ten per cent. The proportion born outside Sweden is considerably higher in some urban areas, e.g. Malmö and Stockholm, than in most rural areas. This fact might indicate that processes of exclusion are somewhat stronger in urban areas since chances of inclusion are in reality lower.

A total of 16 per cent of the interactive media workforce has one or both parents born outside the Nordic countries (see figure 3). This might indicate that the chances of getting a job within Swedish interactive media firms for these 'second-generation immigrants' are higher than for those themselves born outside the Nordic countries that make up, as we have seen, only five per cent of the workforce. It should be kept in mind though that the proportion of second generation immigrants among the Swedish workforce in general is higher than the first generation, indicating that for people with an immigrant background the chances of getting a job in the interactive media sector do not increase as much as the figures here may suggest. There is little doubt that interactive media production is homosocial in relation to ethnicity, and to some extent gender and age.

**Figure 3.** Proportion of interactive media workers with one or both parents born outside the Nordic countries.



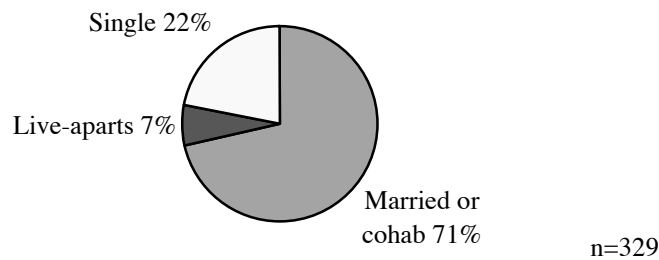
### Civil Status and Family Situation

It has been held that one of the reasons why interactive media employees accept, or at least manage, to work under conditions including, for example, long and shifting working hours and unclear separations between work and free time, is their civil status and family situation. The workers are not only thought to be on average young, but also lacking much of the responsibility that comes with having a partner and/or children (Eckerstein et al 2002). Thereby, their need for regular working hours, as well as secure forms of employment and payment, is not as great as for workers with a family.

Furthermore, the perceived psychosocial health situation, including stress due to work demands, is thought to be related not only to the work situation itself, but to overall life situations. It seems reasonable to assume that it is more stressful not to know working hours and salary levels when one has others, and especially children, to consider. On the other hand, a family can offer economic buffering and emotional support. As a starting point for investigating the psychosocial health situation of interactive media workers, we have therefore examined their civil status and family situation (see figure 4). The results show that 71 per cent of interactive media workers live with a partner (married or cohab) and another seven per cent have a partner, but live by themselves. In the working population at large 75 per cent live with a partner, and among technical specialists 79 per cent<sup>12</sup>. The level thus is somewhat lower for interactive media workers, and that may perhaps be explained in part by their younger age.

<sup>12</sup> Based on Hallsten et al (2002).

**Figure 4.** Civil Status of interactive media workers.



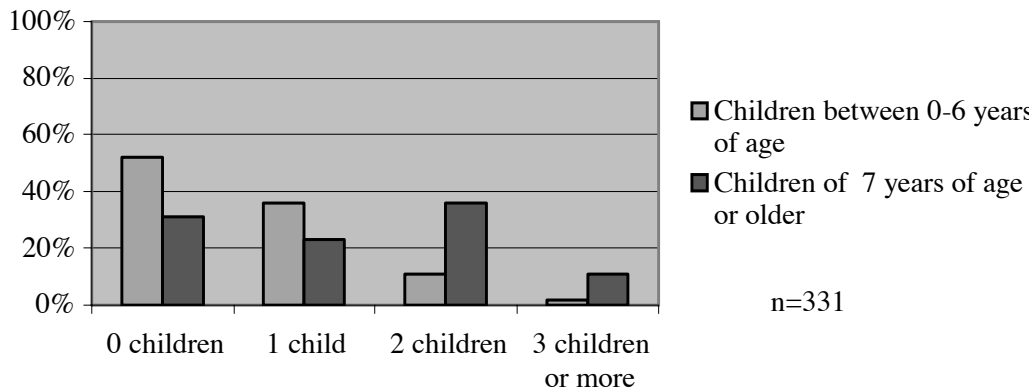
Although having a stable relation to, and living with, a partner means that compromises have to be made, a more important factor is probably whether one has children living at home, as well as the age of the children. Our findings show that 37 per cent of interactive media workers have children living at home. Eleven per cent of all workers have one child living at home, 20 per cent have two children, and six per cent have three or more. Taken together, the average number of children for those workers that have children living at home is 1.9, ranging from one to a maximum of five. Almost the same proportion of women and men has children living at home, 36 per cent of men compared to 39 per cent of women. In the working population in general, and among technical specialists, a larger proportion of men and women have children living at home, 49 and 52 per cent respectively.<sup>13</sup> The difference might, again, in part be understood as an effect of the different age structures. Figure 5 shows the number of children of each worker and is separated between children aged zero to six years, and seven years and older, respectively. The reason for the separation is that younger children generally require more immediate attention and care than older ones.<sup>14</sup>

<sup>13</sup> Based on Hallsten et al (2002).

<sup>14</sup> All results in figure 6 refer to workers that *do* have children living at home. Figures in the column '0 children' means that the respondent does not have children *either* between 0-6 or 7 years or older living at home.



**Figure 5.** Number of children living at home age 0-6, 7 and older among interactive media workers that have children.



Based on the above, it does not hold true that interactive media production is a work that women can mainly manage until they have children and are forced to become more responsible for the household than men. It might however be that women’s lower probability of working overtime and become managers is partially dependent on having children or not (see previously presented results and below). Children do not exclude women from working in interactive media, but lowers their possibilities of devoting the same amount of time to work as men in general do. As shown later, women also use significantly less unpaid time outside regular working hours for competence development, which might be a result of having a greater responsibility for the household, something that becomes more apparent when there are children.

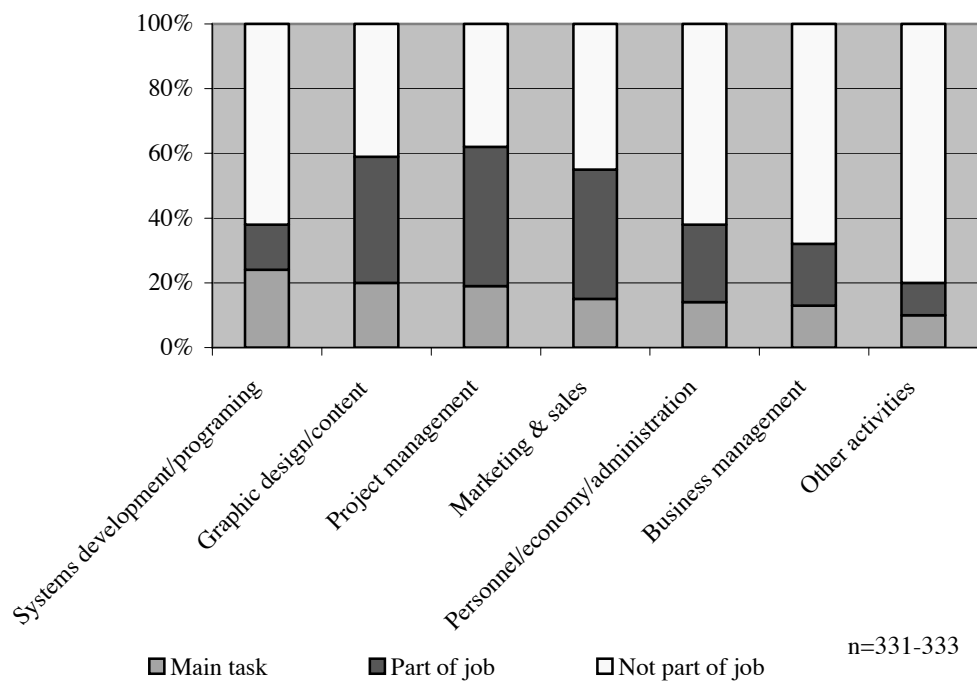
## 2. The Job

### Working Tasks

334 of the 371 workers we received replies from, equivalent to 90 per cent, work with interactive media production, leaving 37 respondents (ten per cent), that do not work with interactive media. The interactive media working tasks of the employees are presented in figure 6, including not only programming, design and project management, but also other activities within interactive media such as sales, administration and management. For each of the working tasks, respondents were asked whether it was their main task, if it is part of their job, or if it is not part of their job. The ten per cent that do not work with interactive media are defined as those for which none of the working tasks are part of their job. The list of workers that we received from management was supposed to include only those working in some way with interactive media. However, among those individuals ten per cent indicated that they did in fact not work within interactive media at all. This indicates that the management has

a somewhat broader understanding of interactive media related working tasks as compared to workers themselves. Since this is foremost an individual level study, we have chosen the individuals' identification of themselves as interactive media workers as the basis of inclusion, rather than management estimates. The figure shows that the working task most interactive media workers (i.e. excluding those that do not work with interactive media at all) have as their main responsibility is systems development and programming (24 per cent). There are, on the other hand, very few employees that perform this task as just a part of their job, so that in total only 38 percent of employees perform this as either a main task or as a part of their job. The most common working tasks performed either as a main job or as part of ones job is instead graphic design and content production, project management, and marketing and sales: half or more of employees are involved in each of these activities at least to some extent. This implies that systems development and programming is a specialised working task and not something that everyone is involved in.

**Figure 6.** Working tasks among interactive media workers.



### *Three Groups of Workers*

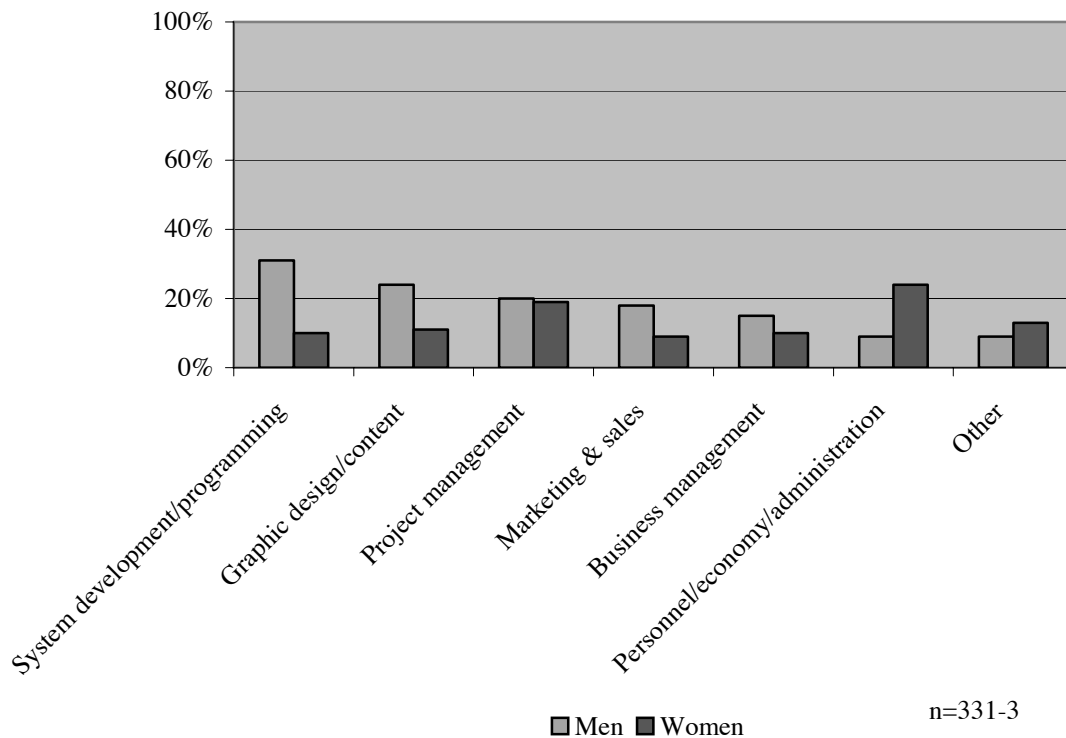
By analysing correlations between working tasks, it is clear that there are some activities that are more commonly combined. Systems development, graphic design and content production are loosely but significantly correlated to each other, at the same time as being negatively correlated to personnel, economy and administration. The strongest positive correlations are found between

management, marketing and sales, and personnel, economy and administration, as well as project management. Based on this, one can talk of three groups of interactive media workers. First, technical workers who mostly handle systems development and programming, but also some graphic design and content production. Second, content developers who handle a small amount of programming, but mostly graphic design. Both these groups are sometimes involved in project management, but not to the same extent as the third group. The third group handles the managerial, economic and administrative working tasks within the organisation, but are involved in the actual technical or content production to a very limited extent. A fourth group of workers within these companies consists of the ten per cent of workers in the lists we received that are not involved in interactive media activities at all. One can thus speak of an internal division of labour of interactive media production, although borders between workers are somewhat shifting and fluid.

### *A Gendered Division of Labour*

The proportion of women is higher than men in administrative tasks (see figure 7). 24 per cent of women answer that (one of) their main tasks is within personnel, economy and administration compared to only nine per cent of men. As mentioned earlier, it is partly because these kinds of working tasks exist that women are present to the extent that they are in the sector. At the same time, the results presented earlier concerning the discrepancy between managers' and workers' own estimates on the proportion of women within interactive media production seem to say that the working tasks women to a larger extent are involved in than men are less commonly identified as interactive media related (which might influence women's career trajectories and access to e.g. competence development). Men are represented to a higher extent than women in technically oriented working tasks. 31 per cent of men perform systems development and programming as a main task while this is the case for only ten per cent of women. The proportion of men and women who regard project management as their main working task is roughly equal, 20 per cent. Project management thus seems to be one option where women may secure managerial positions, possibly because project management positions often exist outside regular hierarchical structures (to the extent that such exist), and are placed below top management.

**Figure 7.** Comparison of main working tasks for male and female interactive media workers. More than one answer possible.



Separate correlations between working tasks for men and women show some clear differences and reveal some interesting patterns. For male workers, personnel, economy and administration are positively correlated to marketing and sales, project and business management. Personnel, economy and administration are positively correlated to business management for women as well, but not as strongly as for men<sup>15</sup>, and the other working tasks, i.e. marketing, sales and project management are not correlated at all for women. Furthermore, there are much stronger negative correlations between personnel, economy and administration and systems development and graphics production for women than men, as well as between graphics production and business management. Taken together women have more specialised working tasks than men do, i.e. a higher vertical and horizontal division of labour than men. Taking care of personnel, economy and administration less often means doing other things as well, whereas for men it is more likely to be linked to managerial tasks. Men involved in one area are more likely than women to be seen as capable of or at least get the opportunity to be involved in other areas (horizontal integration) and take on managerial tasks (vertical integration). This is not just an effect of the proportion of men among management and owners/partners - the different gendered patterns are consistent for permanent employees generally.

<sup>15</sup> R= 0.639 for men and 0.461 for women, both significant at the 0.01-level.

Within knowledge intensive firms specialising in certain types of expertise, it is common that upward mobility, management positions and co-ownership is largely dependent on perceived excellence in core knowledge areas rather than e.g. management, organisational or administrative skills (Alvesson 2004): Accounting and law firms, for instance, are run by accountants and lawyers rather than administrators or professional managers. It might thus be that women's lower probability of becoming managers and owners, as well as receiving less competence development, is dependent on their exclusion from the tasks viewed as being at the core of the companies' competence and hence being the ones offering merit, experience and status. Against this, one should however recall that project management is a relatively common task for women. How can this be explained? A preliminary hypothesis is that project management perhaps is not so much a position of power and authority over the development processes as it is a role more identified with administration and trying to make sure that projects keep within the budget, time frame and specifications. In other words, some women are forced into and/or accept the role of functioning as 'mothers' for the creative technology boys playing around with their computers and take on the responsibility for delivering products roughly in line with what customers ordered (cf. Kunda 1992; Levy 1994).

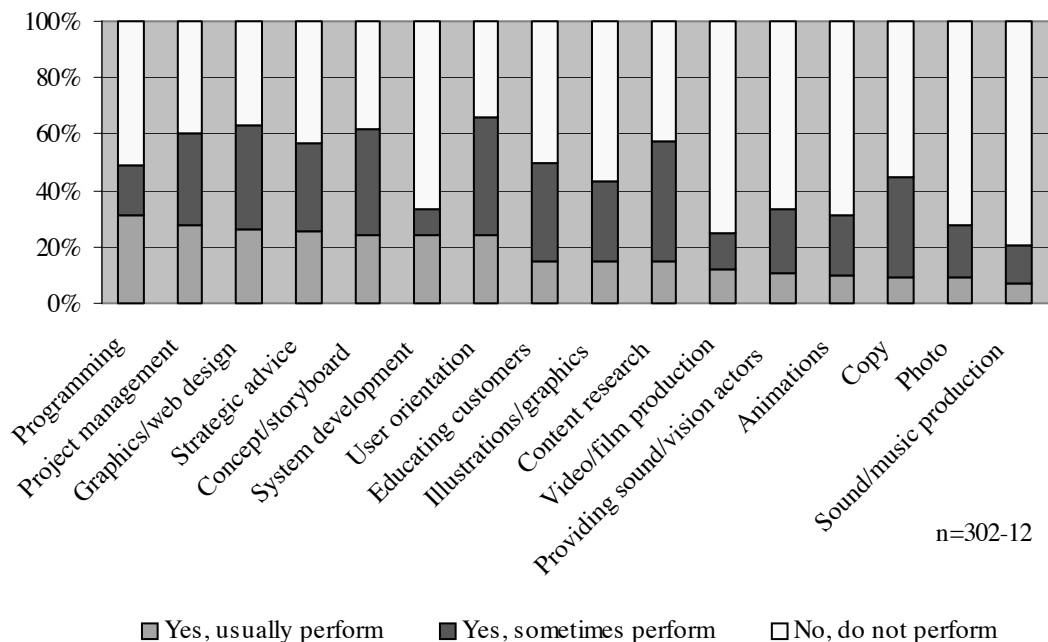
This is of course a preliminary hypothesis we have no possibility of verifying or falsifying given the nature of the empirical data available. Still, we want to offer some hypothetical reasons behind the data presented and we do believe that gendered aspects of interactive media production have previously not been sufficiently addressed. Most studies (including ours) so far mainly reach the stage of 'counting heads' without questioning why they end up where they do and what that means, e.g. the process through which gender is 'done' (Gunnarsson et al 2003). It suffices to consider the following question to realise that gender is of interest: why is it that although women make up one third of the interactive media workforce, they are so seldom among the founders of firms and why is it that female entrepreneurs to our knowledge account for practically zero per cent of firms that were introduced on the stock market and/or focussed on growth rather than profitability?

### *Detailed Categorisations of Working Tasks*

The areas above depict major working tasks within interactive media related functions and are helpful to categorise workers into broader groups. To gain a more detailed picture of what workers actually do in relation to the production of interactive media, respondents were also asked if they usually, sometimes or never perform a number of more specialised activities related to interactive media production (see figure 8). It is naturally easier just to ask whether activities are part of the job or not. However, given our previous studies at firm

level and preliminary knowledge of the individual level as characterised by a certain flexible specialisation, we (rightly) decided to include a ‘sometimes’ category. The activities depicted are largely identical to those investigated at firm level, in order to make multilevel analyses possible. Here it is once again shown that activities related to content production, such as concept and storyboard, graphics and web design, content research and user orientation are more common than technical activities such as systems development and programming. Still, half of workers (49 per cent) involved in interactive media production perform some more basic forms of programming, such as HTML. One probable reason for this is that despite ‘cut and paste’ commands, some professional and stable inclusion of contents still requires at least minor programming (Elsom-Cook 2001). Another reason is that the creation of certain contents, and especially visual images, require programming (more so in e.g. 3D-computer games than adding jpeg images to static web pages). Less common activities are sound and music production, video and film production, photo and animations. One reason why only a small proportion of *workers* perform these activities is that only a small proportion of *firms* as a whole handle them internally. Firstly, they are only present in a small number of interactive media solutions such as computer games and edutainment (Manovich 2001). Secondly, they are often subcontracted to other, specialised firms (Sandberg and Augustsson 2002).

**Figure 8.** Performance of activities included in interactive media among workers.



## **Managerial Tasks**

Roughly half (52 per cent) of the respondents claim to have managerial tasks, which should be distinguished from being managing owner or partner within the firm: whereas owners and partners are generally part of top management, workers with managerial tasks can be found at all levels. Notable however is that ‘only’ 77 per cent of owners claim to have managerial tasks (as compared to, for example, 45 per cent of permanent employees), implying that ownership is not restricted to top management or that quite a large proportion has silent owners. The latter seems less probable though, given that questionnaires were sent out to active managers supplied to us through the companies.

The proportion of male workers that claim to have managerial tasks is higher than the proportion of women, 57 per cent for men compared to 42 per cent for women. Again, one should probably not only look at real differences in position, but also differences in identification and appreciation. It is well known in studies that men tend to overestimate their knowledge, position and influence (Säve-Söderbergh 2003). 21 per cent of all workers with managerial tasks are, however, not managers over any other employees within the firm. This either means that the respondents have misinterpreted the question, i.e. less than half of the respondents actually function as managers, or it means that the understanding of managerial tasks is not restricted to the traditional meaning of what it means to be a manager.<sup>16</sup> It might be, for instance, that one is in charge of a certain project, but does not necessarily interpret this as functioning as manager for other employees. If those individuals who do not manage people are excluded, 40 per cent are managers in the traditional sense. On average, they are managers over 5.2 or 6.7 subordinates (the median being three and five respectively), depending on whether all those who claim to be managers, or only those who actually are supervising co-workers, are included. Differences between men and women are small in this respect, on average 6.8 subordinates for men and 6.5 for women (excluding those with no subordinates). Thus, when women *do* have managerial positions, it is generally not over smaller groups of subordinates than men. This might partially be due to the generally limited size of firms.

### *Who Governs Here?*

The title of this section refers to an American classic study on governing with no resemblance whatsoever to Swedish interactive media. The question is however relevant for this study since a calculation of the proportion of workers

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<sup>16</sup> The questionnaire stated that respondents working in companies without employees should state that they have managerial responsibilities over zero employees. A total of twelve persons in companies without employees responded to the survey. They are not included here.

that have managerial tasks and the number of employees they have as subordinates do not add up; there are simply too many managers (or too few subordinates). There is an old Swedish saying, 'my servant also has a servant'. Here, everyone seems to be both servant and master. Can this be? We believe that the high proportion of managers is mainly due to a combination of the use of several managerial structures (which you have in project and matrix organisations) and the occurrence of relatively small firms with several managing co-owners. This form of organisation is quite common in knowledge intensive firms (Alvesson 1995) organised as adhocracies (Mintzberg 1983).

### 3. History – Development – Future

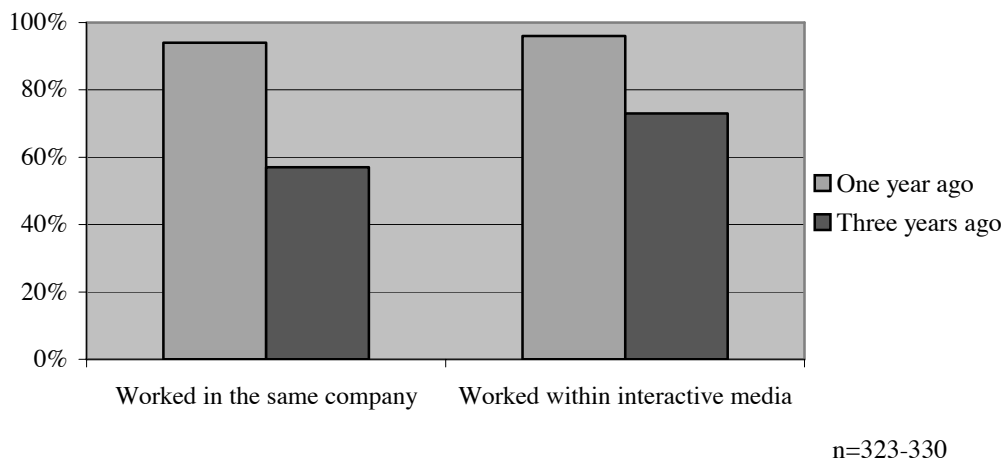
This is as previously stated the first survey directed at interactive media workers in Sweden, meaning that comparisons with previous findings cannot be made. Since it is of interest to investigate the backgrounds and previous positions of workers, as well as future aspirations, we have asked some retrospective questions concerning what workers did one and three years ago. Further, workers have been asked what positions they would prefer in the future and if they want to continue within interactive media production at all.

#### **Workers' Background**

The labour market of the new economy has been depicted as dynamic, with workers moving between different positions, as well as in and out of firms and the sector (Batt et al. 2001; Castells 1996; Holmberg et al 2002). Our previous firm-level studies have shown limited support for these dynamics and worker movements (Sandberg and Augustsson 2002). Furthermore, according to interviews with workers, they do not seem to demand increased movement between jobs and employers. Most would prefer to stay with the current employer (Bergström and Karén 2002). Our studies of workplaces in Kista active within IT-related areas and Swedish organisations with inhouse production of interactive media indicate that labour turnover is more dependent on changes in organisation and the size of firms and operations than of movements of workers (Augustsson and Sandberg 2004b; Sandberg et al 2005). The findings in the present study show that 94 per cent of workers were employed at the same firm one year ago and 57 per cent three years ago. Further, 96 per cent worked within interactive media one year ago and 73 per cent did so three years ago (see figure 9).



**Figure 9.** Proportion of interactive media workers that worked within the same company and/or with interactive media one and three years ago, respectively.



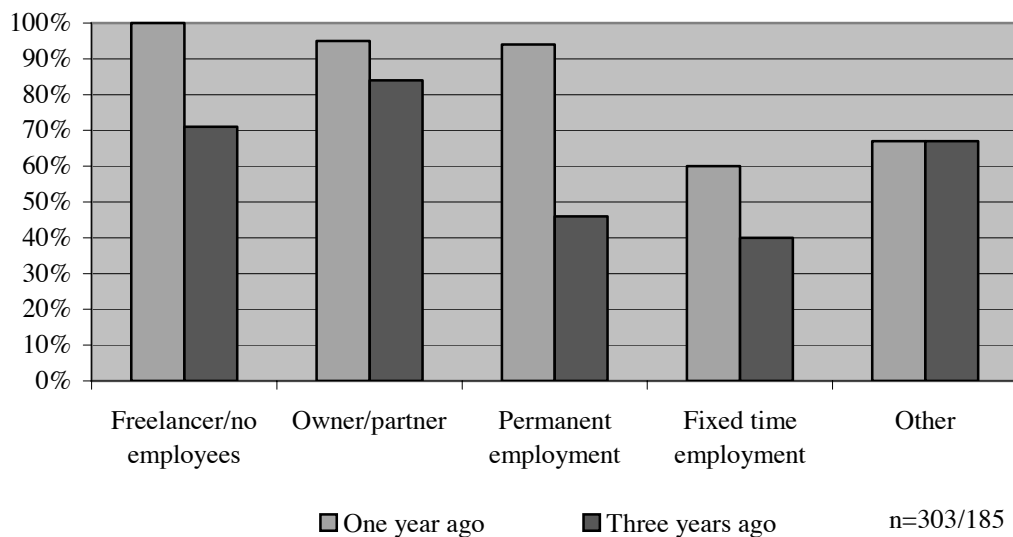
Based on this, it does seem that workers are very loyal to the firms they work in, at least those who currently work there. It might be that those who were working within the investigated firms at the time of study represent the loyal core of workers who have chosen or have had the opportunity to stay, whereas there has been a greater labour turnover among the more peripheral workers (compare Atkinson 1984, see e.g. Ackroyd 2002 for a critical discussion). Our firm level data show that during the past twelve months, roughly 1.4 permanent employees have quit or been laid off, at the same time as 0.6 new workers have been employed within an average firm. Even though the average firm is small, this still only amounts to less than ten per cent laid off. Given the reportedly high layoffs within the sector, this seems quite modest, especially considering that there has been simultaneous new employment of about four per cent - meaning that overall decreases amount to roughly five per cent of the workforce. This estimate does not include any layoffs that occurred in relation to the complete shutdown or bankruptcy of interactive media firms, which logically are not present in this study. We believe there is a certain bias beyond the exclusion of firms that have shut down. Firms that went through reconstruction programmes and massive layoffs during the time of study were generally restrictive of participating in our research project. If included, these firms would push up the level of labour turnover dramatically.

#### *Who Stays? Differences in Labour Movement*

Cross tabulations between the current position within the firm and whether or not one worked within the same firm one year ago show that roughly 95 per cent of both owners and permanent employees worked within the same firm, whereas only 60 per cent of fixed-term employees did so. Base numbers (n) for

the latter group are low however, and the findings should be treated with caution, although the differences are significant (Hoyle 1999). Larger changes between the different groups can be found when comparing the proportion that worked within the same firm three years ago. Owners have dropped roughly ten points to 84 per cent (who worked in the same firm), whereas permanent employees are down to 46 per cent (see figure 10). In fact, over a three year period of time, the proportion of permanent employees working in the same firms is down to almost the same levels as for fixed term employees. This reflects a greater movement of employees than of owners, which seems reasonable. Owners are often also co-founders of these firms and both the possibility of leaving their firm (for reasonable economic compensation) and willingness to do so is limited (Ågerup 2002, compare Perkins and Perkins 2001). Furthermore, within the knowledge intensive and personnel dependent sector that interactive media belongs to, the value of the firm is connected to the status of its founder and owner as he or she is thought to be involved in, and direct, the production and thereby at least partially determine the quality (Augustsson 2004). The same applies for ‘star’ creative developers who are known to others within the social field and are thought to have high status<sup>17</sup>, especially when firms grow and the possibility for owners to have hands-on influence over production decreases (compare Aspers 2001).

**Figure 10.** Comparison of the proportion of different groups of workers that worked within the current company one and three years ago.



<sup>17</sup> When some of the high profile/status creative minds of the well-known interactive media firm Moonwalk Sthlm decided to leave the firm, several external commentators on the firm’s open web forum claimed that the firm would lose its cutting edge and the whole firm be in jeopardy.

Just as a majority worked within the same firm one and three years ago, almost all permanent employees and owners worked within interactive media one year ago, but there is a huge difference between the two groups when looking at the situation three years ago: 89 per cent of owners and 67 per cent of permanent employees worked within interactive media (see von Otter 2004 for movements on the Swedish labour market in general). These findings imply that it is more common to switch company than to switch sector, which supports the notion that workers move between employments in different firms, rather than in and out of the interactive media sector. Still, there does not appear to be as much labour force movement as in New York City according to Batt et al's study. It should be kept in mind, however, that Batt et al's study was made before the 'dotcom-death', at a time when the possibilities of workers to attain a better position by changing employer was probably higher, since it gave them the opportunity to renegotiate contracts and other rewards.

**Figure 11.** Main occupation one and three years ago.

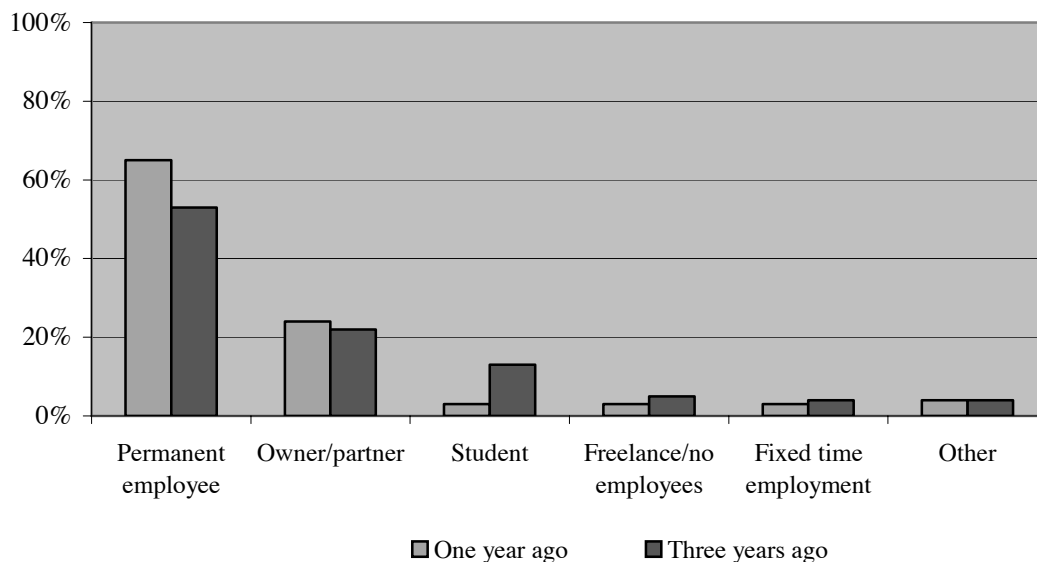


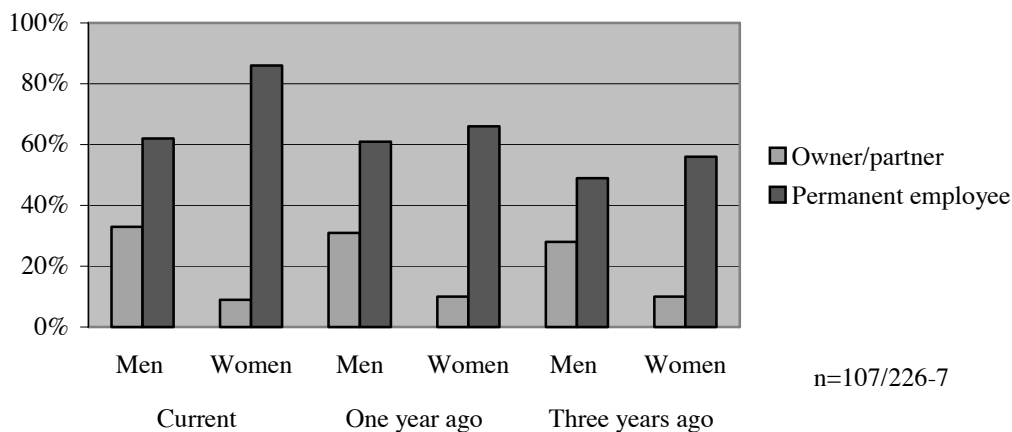
Figure 11 shows the occupations that interactive media workers had one and three years ago, respectively. One year ago 92 per cent of workers had a job, three years ago 80 per cent. The proportion of respondents that were not working one year ago is thus low, which is understandable given that a large proportion of them were employed within the same firm. When looking three years back, one can see a large increase in the proportion of students, which is understandable given the average low age of interactive media workers. Given the brief history of the interactive media sector and its rapid growth in the mid to late 1990s, the proportion of workers that could have earned a living within interactive media production three years ago is naturally limited. Taken together, the findings in this section indicate that a large proportion of the respon-

ding workers in this study consists of the core interactive media workforce, or at least early entrants into interactive media production. Many of them started producing interactive media before the hype years of the late 1990s (see more below on interactive media experience).<sup>18</sup>

### A Gendered Experience

When comparing current and past positions for women and men among interactive media owners or partners and permanent employees, the figures show that men are owner or partner to a larger extent for all years (see figure 12). 34 per cent of the men are currently owners or partners while only nine per cent of the women are, figures that are quite similar to those of one and three years ago. According to these figures, there does not seem to have been any development towards an integration of women into managerial or ownership positions. If this trend continues, there is no reason to assume a future decrease of gender differences concerning ownership and management within the specialised interactive media producing firms.

**Figure 12.** Current and past positions among men and women. Proportion of owners, partners and permanent employees.



Above figures are in line with the fact that the proportion of men with managerial tasks is higher taken that owners or partners are to be found in

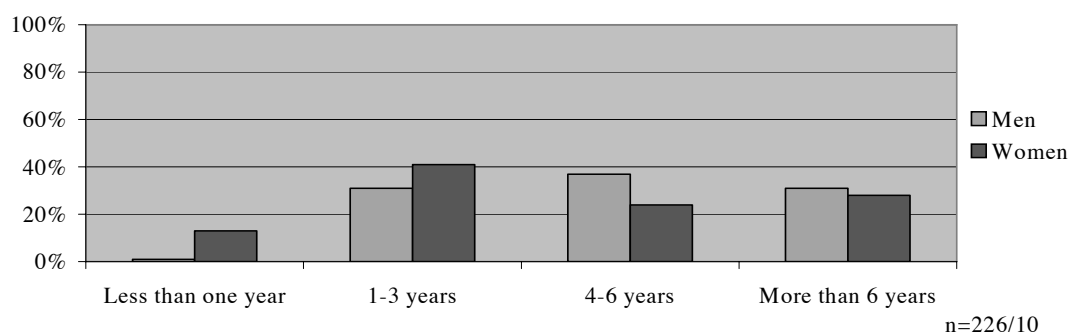
<sup>18</sup> The study was conducted in late 2002/early 2003, meaning that three years back refers to late 1999/early 2000, i.e. during the peak of the Internet hype, seemingly contradicting this argument. It seems unlikely though that all respondents entered interactive media production three years and one day ago. Instead, the respondents experience in interactive media should roughly correspond to the growth in interactive media firms and workers as depicted in Sandberg and Augustsson (2002) and Augustsson and Sandberg (2004b).

managerial positions to a larger extent than other employees. On the other hand women are permanent employees to a much higher degree than men.<sup>19</sup>

### Interactive Media Experience

Most respondents have at least one year's experience working with interactive media. This is not surprising given the downturn that the sector has experienced since the dotcom-death: with less than one year's experience it is not easy to get a job within a company that produces interactive media, especially given that one must compete with a large number of other currently unemployed workers with longer experience. Furthermore, as previously shown, a large proportion worked with interactive media in the same firm one and three years ago implying they worked with interactive media longer than that unless they changed their working tasks within the firms and the sector. Most workers have somewhere between one and six years experience, which corresponds well to the age and development of the Swedish sector of interactive media production (Sandberg and Augustsson 2002). There is also, however, a rather large group of workers with a total working experience within interactive media that is greater than six years.

**Figure 13.** Average total working experience within interactive media among men and women.



Male workers on average have a significantly longer experience working with interactive media than women. 68 per cent of male workers have worked with interactive media for at least four years, as compared to 46 per cent of female workers. The most remarkable differences are seen among those with less than one year's experience. One per cent of men fall into this category, as compared to 13 per cent of women. This could indicate increased efforts by employers in specialised interactive media firms to hire women, or be due to the increased

<sup>19</sup> The numbers of freelancers, fixed-term employees and 'others' are too small to make reliable cross tabulations. This is the reason why numbers of employees and owners do not add up to the total for all workers.

proportion of women entering education seen as suitable for interactive media production by employers, which may mean that the proportion of women will increase in the future. At the same time, women may be the first to lose their jobs as they have less (on average) working experience within interactive media and shorter lengths of employment.<sup>20</sup> As shown above, this does not seem to result in an increased upward mobility of women within interactive media firms, at least not yet.

There is a correlation between workers total working experience within interactive media and their current position. On average, owners have more experience than freelancers, who in turn have more experience than permanent employees, who have worked with interactive media longer than fixed-term employees. Based on this, it seems that a common career path within the interactive media sector runs from fixed term employment onto permanent employment. After this, there is a separation - where a small proportion move into freelancing or start a company without employees, whereas others become owners or partners in companies with employees; others still remain as permanent employees. This pattern could however, be a cohort effect: those who started to work within interactive media a long time ago had the opportunity and first-mover advantage, which made it possible for them to start their own companies and possibly hire employees. The field was young and the demand for interactive media solutions, as well as the willingness to invest in new start-ups, high (Eckerstein et al 2002; Willquist 2001). It is far less certain that workers who move into the interactive media sector today have the same opportunities. This is not only due to the current recession within the sector, but also to the development and maturation process which has occurred. There is less new ground to cover (compare Ahrne and Papakostas 2002) and competition is much more fierce, rendering it harder for an individual to start a new firm, even if he or she has experience in interactive media production. The new firms which are started today mainly seem to consist of reconfigurations of previously existing firms, e.g. mergers and acquisitions, and are usually handled by individuals who previously have been managers and/or owners of interactive media firms. Still, it does seem that ownership is a position that a large proportion of employees would prefer (see figure 14).

If there is such a cohort effect whereby early entrance and larger experience determine possibilities of starting firms and reaching higher positions in interactive media, it is unlikely that women's share of ownership and mana-

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<sup>20</sup> The Employment Protection Act (Lagen om Anställningsskydd, LAS) makes it possible for employers to exclude certain employees with strategic competence when laying off workers. They must otherwise follow the 'last in, first out' principle. Gender in itself does not qualify as a strategic competence (even though affirmative action is accepted in recruitment when competencies are deemed equal). To give special priority to e.g. women there must be a special agreement with the local union.

gement positions will increase in the near future. Men entered interactive media production first and have occupied the higher positions and women's access to these positions is limited until men leave or give up their positions. This might hypothetically help explain why women make up a larger proportion of inhouse interactive media operations: they are interested in interactive media and some do aspire for management positions but since specialised firms are occupied by men, they choose inhouse operations.<sup>21</sup>

## **Current and Future Work Preferences**

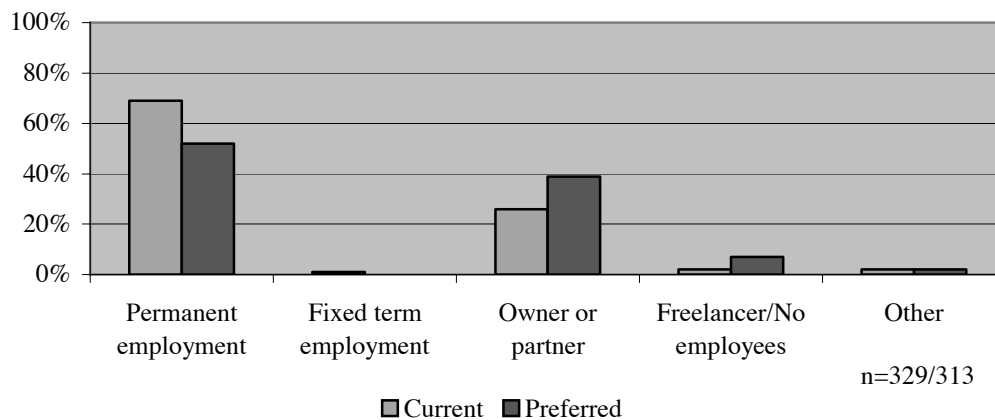
### *Positions*

The results presented in figure 14 below show that the majority of respondents working with interactive media are permanent employees. As also shown in previous studies (Sandberg and Augustsson 2002), fixed term employment does not seem to be common among Swedish companies producing interactive media. Furthermore, it is a situation that no (zero) workers would prefer. There seems to be little support for arguments claiming that workers in general, and those within the 'new economy' especially, favour more loose forms of relations to the companies in which they work. The proclaimed willingness to detach oneself from the firm one currently works in seems to be a discourse supported more by managers' search for flexibility than by employee desires. This does not mean that employees necessarily want to stay in the same firm for a long time. After all, over 40 per cent worked somewhere else three years ago (as seen in figure 9). Furthermore, as previously stated, there are permanent employees who would prefer to work for themselves as freelancers, an uncertain position with few stable relations to any other firm than one's own. Both management and employees thus seem to search for flexibility on their own terms, a reasonable finding given that preferred (and not actual or realistic) positions were asked for.

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<sup>21</sup> As the sector matures, it is likely that the gendered cohort effect of management position will decrease, as might that for ownership. Knowledge intensive firms related to creative production that are highly dependent on key employees are characterised by a relatively high level of turnover, both regarding the firms themselves and their workers (see for instance advertising agencies, media production companies, etc.).

**Figure 14.** Current and preferred position within interactive media.

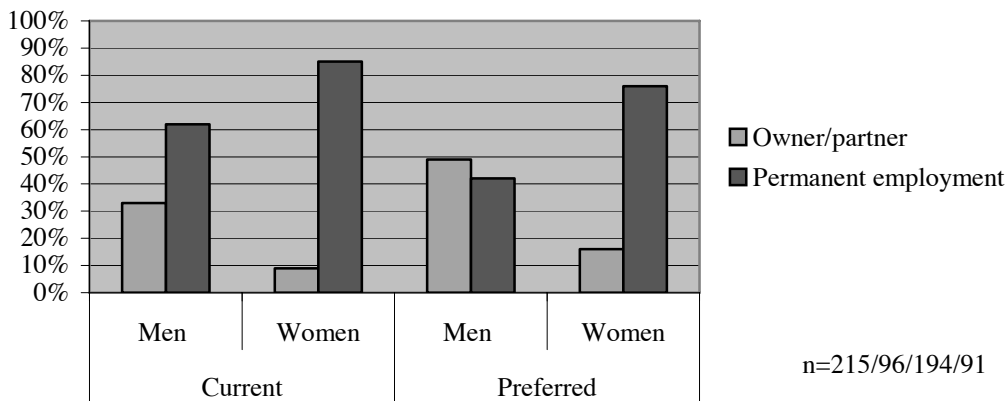


Although permanent employment is the position favoured by a clear majority of respondents, the results show that the two positions favoured by more workers than those that currently occupy them are owner or partner and freelancer. The reason is that these are positions also favoured by roughly a third of permanent employees. The earlier reported career trajectories ranging from fixed-term employment to owner or manager thus mirror the desired development of interactive media workers, at least according to aggregate figures. Men appear to aspire to an owner/partnership position far more often than women. 49 per cent of men state that this position is their preference as compared to only 16 per cent of women, which corresponds to the current situation where 33 per cent of men and only nine per cent of women are currently owner or partner (see figure 15).

If excluding current owners and partners from the sample, the proportional difference between men and women that would prefer to be in an owner position remains. 32 per cent of men among non-owners assert this position as being desirable while only nine per cent of women do so.



**Figure 15.** Current and preferred position among male and female owners/partners and permanent employees, respectively.



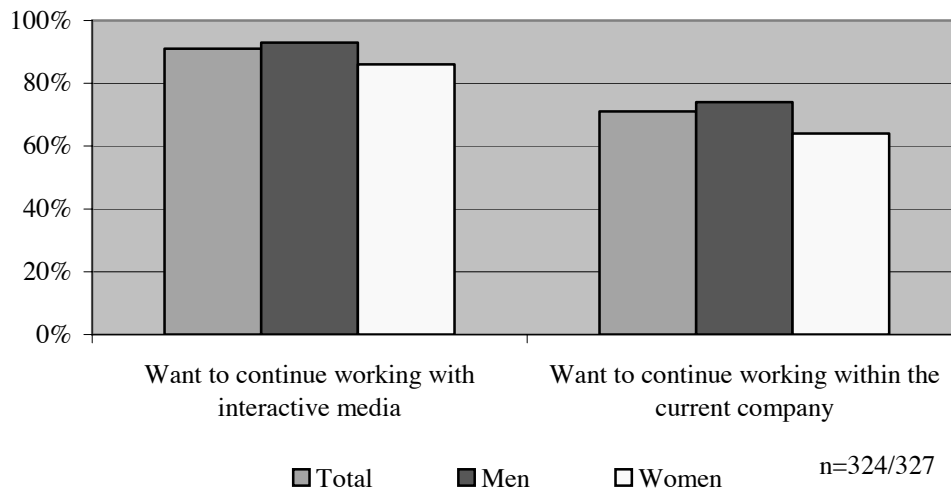
The proportional difference between women and men who would like to be in an owner position is a reflection of the proportional difference between those women and men that currently are so. It could be argued then that there is no problem of gendered exclusion concerning vertical division of labour among Swedish interactive media workers: roughly the same proportion of women who prefer to be managers in fact are so. The previous arguments concerning women’s lower possibilities of internal upward mobility would thus be a quasi discussion since they aspire for such positions to a lower extent than men do. This conclusion is however flawed and premature. First of all, aggregate similarities between subgroups do not necessarily equal individual level correlations; it need not be the same women who hold and favour the owner position. In fact, 50 per cent of women who favour a management position do not hold one, as compared to 44 per cent of men. Eleven per cent of men who are owners would prefer another position. No women feel the same: none (zero per cent) who are owners would prefer another role.

Secondly, there is a well-known mechanism of exclusion based on the ‘sour grapes principle’ (Elster 1983; 1989; 1998). In essence, this means that individuals who do not reach positions they aspire to might devalue or delimit their desire for that position. To this should be added an additional (or third) mechanism, related to individuals’ attempts to avoid disappointment by not applying for or desiring positions they rightly or wrongly anticipate that they probably will not get.

#### *Firm and Sector Aspirations*

The previous results show the positions that workers have and would like to have. Here, we look at the proportions that would like to continue within the current firm in which they work and within the interactive media producing sector altogether.

**Figure 16.** Future work preferences among interactive media workers in total, and for men and women.



As stated, the proportion of interactive media workers that worked in the same sector one and three years prior to the time of study is higher than the proportion that worked within the same firm at the same points in time. The results presented in figure 16 show that the same pattern also applies to future preferences. 91 per cent would prefer to continue working with interactive media, but ‘only’ 71 per cent within the same company. Men state to a somewhat greater extent than women that they would like to continue working with interactive media as well as within the same company. 93 per cent of men would like to work with interactive media in the future, and 86 per cent of women. 74 per cent of the men want to continue to work in the same company compared to 64 per cent of the women. When excluding owners from the sample the proportion of employees who would like to continue working for the same company is almost equal, 66 per cent of women and 67 per cent of men. In the working population at large 42 per cent would like to change workplace, and 41 per cent among technical specialists.<sup>22</sup> This is considerably more than the 29 per cent among interactive media workers.

Interactive media production is thus not a transition job, something that most workers would like to do for a while before moving on to something else. Most workers want to stay within interactive media production for the foreseeable future, although nearly 30 per cent would prefer to change company. This should not be taken as proof that 30 per cent of workers are necessarily dissatisfied with the company they currently work for. It may be, for example, that they want to move on and perhaps work with something different within interactive media. Also, the fact that not a single worker prefers a fixed-term

<sup>22</sup> Based on Hallsten et al (2002).

employment does not mean that they would not be willing to move, they may perfectly well accept and want flexibility, but on their own conditions.

### *Additional Jobs*

Workers in general thus have a few years experience working with interactive media production and the vast majority does not view it as a transition job, but as something they want to continue with in the same sector and mostly within the same company. This does not mean that the employment referred to here is the only one for all employees. Roughly one fifth of interactive media workers have another job besides the one through which they received the current survey. A large proportion of these respondents, 41 per cent, worked as freelancers or in a company without employees. Another twelve percent were owners or partners in the other company, and the rest ‘other’ or employees. Those with another job worked on average 7.8 hours per week in this job during the previous month (i.e. roughly one working day), 2.4 of which were in interactive media (see more in relation to working time). This suggests that the other job reported here might often be in a single person firm that is ‘dormant’, but activated when there is an opportunity to earn some extra money.<sup>23</sup>

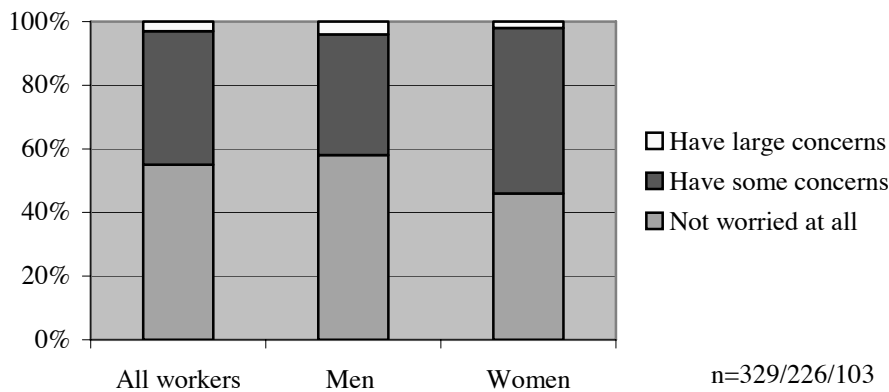
### **Future Earning Possibilities**

The above results clearly show that a large proportion of workers want to continue working with interactive media production. Following this, one can ask what possibilities respondents see of actually making a living producing interactive media. The desire to work with interactive media can clearly also be affected by beliefs in possibilities to earn a living: while some have a desire to work within certain sectors no matter whether they can make a living or not (compare e.g. acting, photo and the media and culture sectors in general), others view economic compensation as a more important motivational factor.

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<sup>23</sup> We have no information on what the approximately five hours not spent on interactive media during the prior week consist of.

**Figure 17.** Estimates of future earning opportunities within interactive media. Per cent of all workers, men and women.



Given the current recession within the interactive media sector, the proportion of interactive media workers who have great concerns regarding their opportunities to make a living working with interactive media production is remarkably low, three per cent. Still, as many as 42 per cent have *some* concerns, a figure that is probably considerably higher than a few years ago due to the decline of the sector (compare Johansson 2001). Men are to some extent less worried than women about the future opportunities to make a living, 58 per cent compared to 46 per cent (figure 17). This is in line with the fact that more men state that they would like to continue working with interactive media.

Apart from psychological factors ('a lot of people can't find a job within interactive media, but it won't happen to me')<sup>24</sup> the findings may be due to the demand for workers with interactive media experience from firms and government agencies that produce interactive media in-house (Augustsson and Sandberg 2004b). Furthermore, there has been much discussion in the media on the sector, for example Computer Sweden, regarding the expected future shortage of interactive media and IT workers in Sweden, partially due to major decreases in the number of students applying for and attending university courses focussed on IT and computers (Högskoleverket 2004).

In the Swedish media, and especially in the offline and online journals that focus on the IT and media sectors, there has been a growing optimism in the last year that shutdowns and layoffs are slowing down, company losses are decreasing or even turning into small profits, and a period of stabilisation is beginning. Some analysts predict that there will be a slow but steady growth in the nearby future as customers' knowledge of the possibilities of interactive media and other solutions, as well as their needs to update their current

<sup>24</sup> The psychological factors might be further triggered by the fact that these workers are 'survivors': they endured the worst phase of the crisis and may believe that they will continue to hold a position within interactive media.

solutions, increase. Our studies of interactive media customers and users, albeit somewhat dated, support the estimates of growth in customer purchases (Augustsson and Sandberg 2004b). So far, the thought increase does not seem to have resulted in any larger detectable job creation, and there are still often several hundred applicants to each job advertised within interactive media and IT.<sup>25</sup>

## 4. Education and Competence

Interactive media production is often considered part of the knowledge economy and, as part of the wider IT sector, it has been used as an example of the need for a general increase in formal educational levels as well as competence development among the labour force in order for workers to remain employable (Augustsson and Sandberg 2004a). This is a view shared by most actors: unions, the government, EU, employers and researchers (Garsten and Jacobsson 2004). Empirical studies show, however, that a large proportion of Swedish workers in general claim that the formal competence and experience they have is not being used in their current job (le Grand et al 2001). The current level of formal education in the labour force thus has to be understood in relation to their current job and recruitment demands<sup>26</sup>. Here, we present results on the average level and focus of formal education, and the extent that workers have attended any courses focussed on interactive media production apart from their main education. We also present results regarding the extent of competence development and the proportion of that which is conducted outside working hours, the relative importance of different sources for competence and perceived needs for competence development in relation to different working tasks.

### Formal Education

#### *Level of Education*

Our findings show that more than half (58 per cent) of interactive media workers have some form of university education, although for 21 per cent the

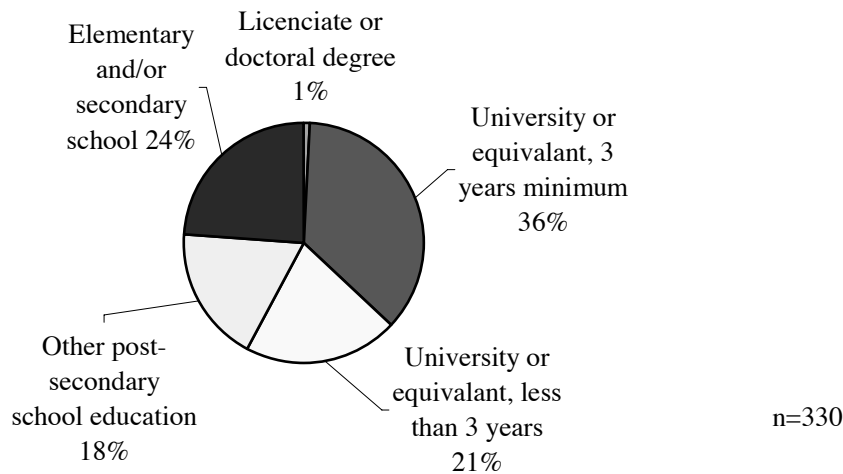
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<sup>25</sup> Based on an ongoing analysis of online and offline media of e.g. *IDG/Computer Sweden*, *Resumé*, *Kickad.nu*, etc. In the middle of 2004, *Kickad.nu* changed its name and focus from reporting problems and layoffs to e.g. recruitment and general business news, now calling itself *what.se*.

<sup>26</sup> A higher proportion of people with e.g. university education does not only imply an increase in average (formal) competence levels, but also an increase in the proportion of workers that may not reach a position in line with their educational qualifications as traditionally defined and aspired to, if the need for highly educated workers does not increase to the same extent, hence creating relative deprivation (Gambetta 1998).

duration is less than three years (see figure 18).<sup>27</sup> The remaining 42 per cent lack a university education. A large proportion of these have, however, attained some (other) form of post-secondary school education. In total 76 per cent have some post secondary education. This is almost the same as for technical specialists (77 per cent) and not surprisingly much higher than for the working population in general, where the proportion is 33 per cent.<sup>28</sup>

**Figure 18.** Highest level of formal education among interactive media workers.



This illustrates that the interactive media sector is not comprised of a large proportion of secondary school dropouts who learnt a bit of web design on the side, as has sometimes been depicted. Instead, the interactive media workforce is quite well educated as compared to working life in general, at least in terms of length of education. Our findings further show that younger interactive media workers are more likely to have attended university, a finding in line with Swedish working life in general.<sup>29</sup>

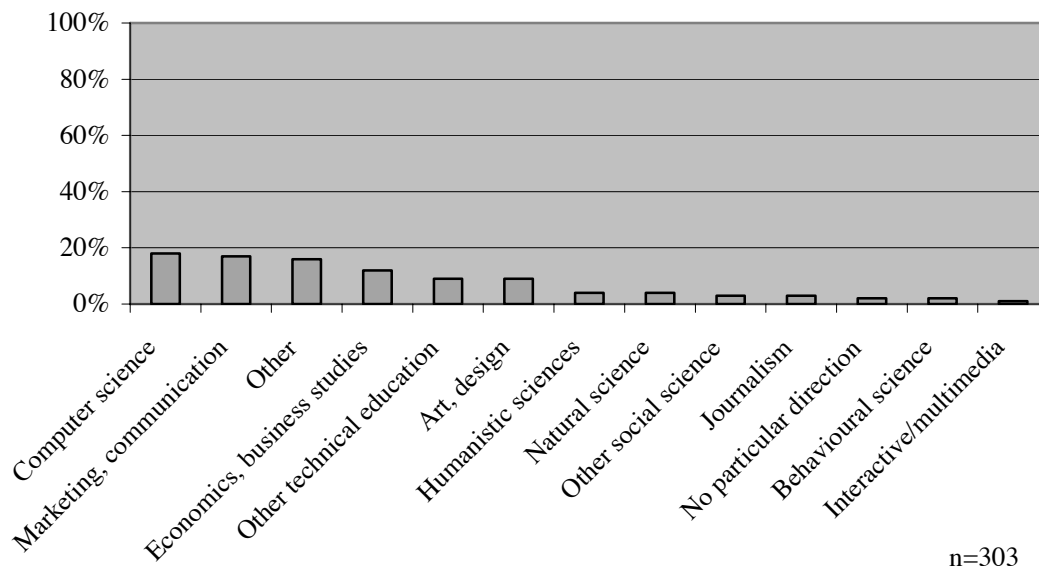
<sup>27</sup> It normally takes three years of university studies to receive a ‘kandidatexamen’ (roughly equivalent to a bachelor) in Sweden.

<sup>28</sup> Based on Hallsten et al (2002).

<sup>29</sup> Length of education increases with age to a certain point when the impact of generational or cohort factors take over; it is a curve linear correlation. Broadly speaking, this means that a ten-year old child will on average have a shorter education than someone at the age of 25. On the other hand, the chances that someone who now is 25 years of age has attended university is higher than for someone currently twice that age (i.e. 50) since the proportion of individuals who attend university historically has increased.

## Educational Focus

**Figure 19.** Main focus of formal education among interactive media workers.



Considering the main direction of interactive media workers education, it is interesting to note the rather low proportion that have majored in technology related areas, 27 per cent including interactive media, with only 18 per cent in computer science. This corresponds to the relatively low proportion of workers with systems development and programming as a main working task. 73 per cent of those who handle programming as a main task or as part of their job have majored in computer science. Put differently, of those that have majored in computer science, 93 per cent perform it as their main task or part of their job within interactive media production. It is mostly men who are represented among those interactive media workers with a technical formal education. Taken together, 37 per cent of men have a technical educational background compared to 14 per cent of women, and technically oriented working tasks are also three times more common among men than among women (see figure 7). Other main educational focuses are economics and business studies (twelve per cent) and marketing and communication (17 per cent).

Considering the low proportion of interactive media workers that have attended university educations directed at technically related areas as well as the low proportion of female workers within technically dominated interactive media working tasks, the relatively high level of female representation in the interactive media sector cannot be solely attributed to the increased proportion of female students in technically related university educations (and computer

science in particular).<sup>30</sup> A more important reason for the relatively high proportion of women workers is that interactive media is not only a technical discipline, but also an economic and creative one (compare Darin 2003; Augustsson 2004). In other words, there is not a large proportion of female interactive media workers because a growing proportion of women attend technically oriented university educations, but because there are other working tasks besides technological ones within interactive media production.

#### *Additional Interactive Media Educations*

As the results above show, practically no workers have a formal education focussed mainly on interactive media. An obvious reason for this is that a large proportion of respondents were working three years prior to the study (i.e. 1999), and before that specialised educational programmes focussed mainly on interactive media production were scarce (Augustsson and Sandberg 2004a). Besides the quasi total lack of formal education (university, secondary school etc.) focused on interactive media, nearly half of employees, 48 per cent, have not attended any other courses/education directed at interactive media production. Those lacking education specifically directed at interactive media production are excluded from figure 20, which shows that the most common forms of education focussed on interactive media that employees have attended are university level educations<sup>31</sup> and other courses, e.g. organised by private companies, of varying durations. If those who have attended ‘other courses’ ranging from less than one month to more than seven months are summed up, we find that a total of 31 per cent of all interactive media workers have attended such courses.

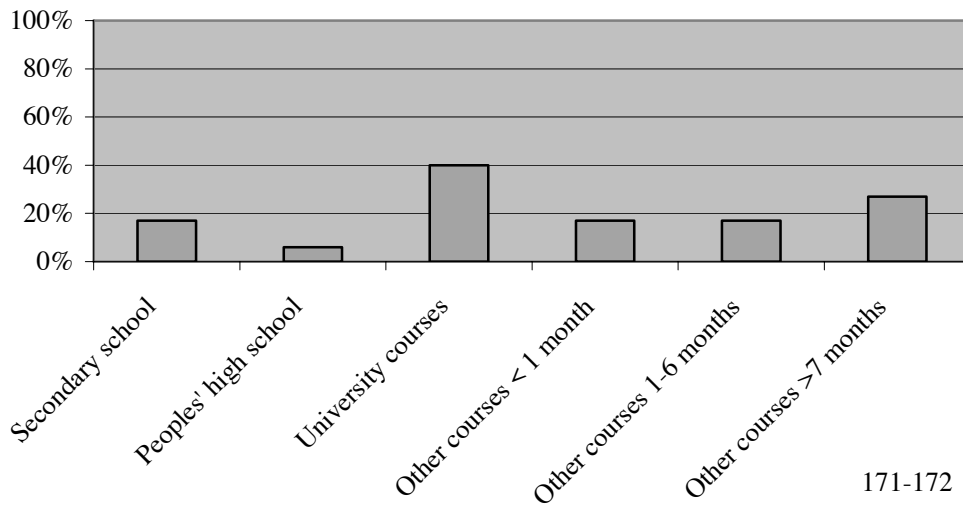
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<sup>30</sup> As shown by Augustsson and Sandberg (2004b), the proportion of women interactive media workers is higher within in-house interactive media production in larger Swedish firms’ and government agencies’, than it is in specialised interactive media producing firms.

<sup>31</sup> Although workers do not have interactive media as the main focus of their university education, it may still contain courses that are relevant to interactive media production. This may be the case for education in, for example, journalism, media and engineering.



**Figure 20.** Workers who have attended different types of courses focussed on interactive media production. More than one answer possible.



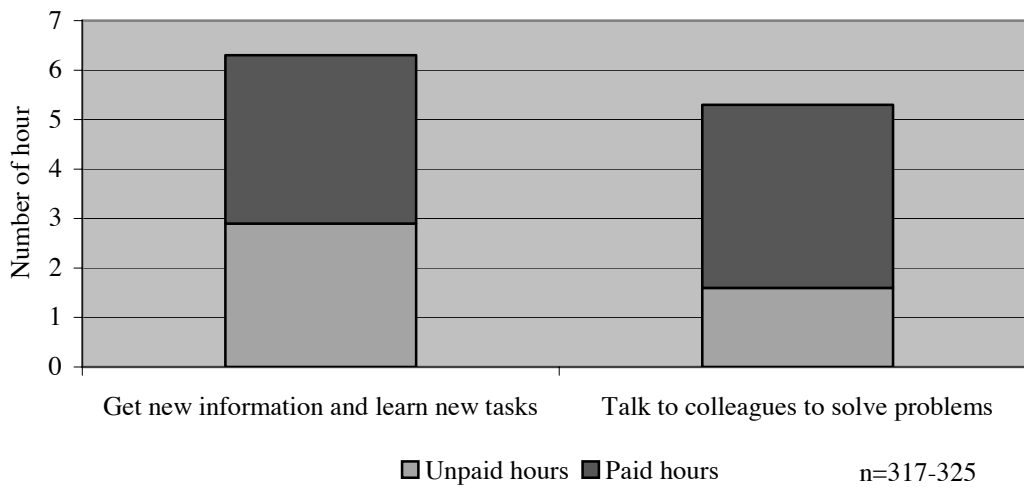
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### Learning and Competence Development

Given the continuous developments of IT and the recurrent releases of new software packages and updates for creating interactive media solutions, the flexible specialisation of jobs, etc., it has been argued that interactive media workers are in more or less constant need of competence development to stay employable. Workers that do not have access to situations where learning can occur run the risk of being phased out, and eventually perhaps even lose their jobs because they do not have the skills to handle the latest software or master the newest type of solutions. It does seem clear today that people who only know HTML programming, which a couple of years ago was enough for an employment within the sector, cannot hope of finding a job within specialised interactive media producing companies. Compared to a couple of years ago, the speed of technical developments related to interactive media now seems to have slowed down somewhat. But customer demands and the competition between interactive media firms and workers have increased, meaning that competence development still is an important issue for workers and firms (as well as nations).

Interactive media workers on average spent 11.7 hours during the previous week in situations that directly involve possibilities for learning (figure 21). Roughly half of this time, 6.3 hours, consisted of finding new information or learning new skills related to interactive media work. The other 5.4 hours mainly offered the potential for learning through problem solving interaction with colleagues inside and outside of the company.

**Figure 21.** Average number of paid and unpaid hours used for learning during the previous week among interactive media workers.



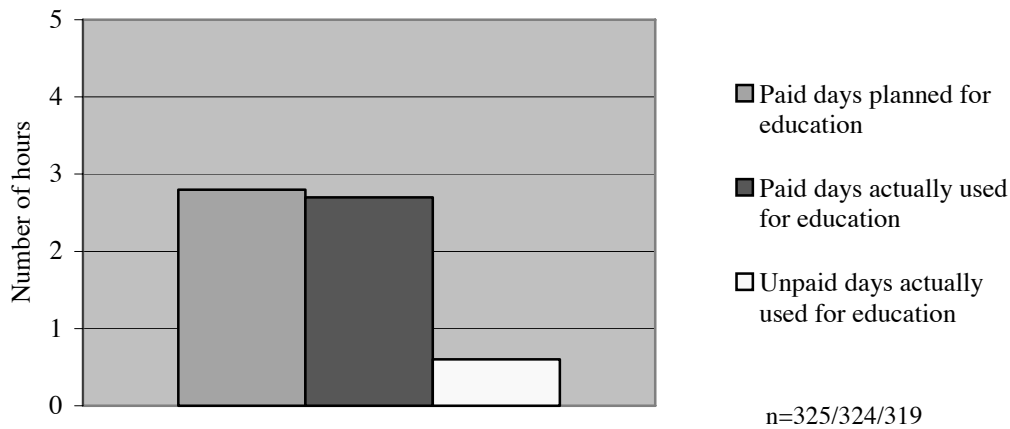
Men spent more time on learning during the previous week, 13 hours, than women, who spent 8.3 hours. A considerable amount of the time both men and women used for learning during the preceding week was unpaid, five hours for men and three for women, on average five hours. Unpaid time was dedicated especially to finding new information and learning new tasks, which seems reasonable given that opportunities to talk to colleagues are greater during paid, i.e. regular working, hours. In New York City, new media workers report much longer hours for competence development: 14 paid hours and twelve unpaid hours per week in learning new skills and solving problems with colleagues (Batt et al 2001, p. 16).

Our findings seem to support the idea that interactive media workers are in constant need of competence development and that to a large extent this is something that has to take place outside regular working hours, although intrinsically intermixed with the actual working process (Augustsson and Sandberg 2004a). One should not forget that interactive media is not only a job, but for some individuals a hobby, or even vocation (Himanen et al 2001). It is not necessarily the pressure for competence development by the organisation which gives rise to workers spending their free time learning new tasks, but also their own interest and curiosity. Interactive media production is by no means the only type of job like this. One can find it in several occupations related to creativity, innovation and research. There is, however, a risk that the borders between work and free time diminish, meaning that the working life ‘invades’ the rest of the life world (compare Habermas). Individuals’ overall self-esteem and wellbeing can thereby become too dependent on job related achievements and successes, especially if workers constantly compare themselves with others within the sector.

### *Offers of Competence Development*

Based on aggregate figures from firm-level surveys, we have previously concluded that interactive media firms in general offer their employees quite extensive resources for competence development, but that employees on average only use a small portion of these resources due to the way work is organised. The same holds true for workers in firms active in IT-related activities in Kista (Sandberg et al 2005). Employees in interactive media producing firms were offered the equivalent of twelve days, but on average only used 55 per cent of this, i.e. five to six days (Augustsson and Sandberg 2004a; Sandberg and Augustsson 2002). The findings here seem to suggest that employees receive fewer days annually but use them to a larger extent: 2.8 paid days are planned for competence development and 2.7 are used (figure 22). The two sets of figures are not completely comparable though. First, there is a difference between days *offered* and days *planned* for competence development. To actually plan days for competence development is a more concrete action than simply offering them, and it is likely that only a portion of the days offered to employees actually become planned days. When they are, it is more likely that they will actually be used. Second, the results here concern days that employees are planned to and/or actually participate in education, for example courses, conferences, etc. Other planned occasions for competence development, such as weekly scheduled working time, are not included. Such occasions more likely fall under paid hours for gaining information and learning new tasks reported in figure 21. Together, these two factors help explain why the extent of planned paid time for competence development found here is lower, but the proportion used is higher. Those working in firms that have a collective agreement are offered, and are using, on average one more paid day a year for education.

**Figure 22.** Average number of planned days for education (including courses and conferences) during the previous year and number of paid and unpaid days actually used.

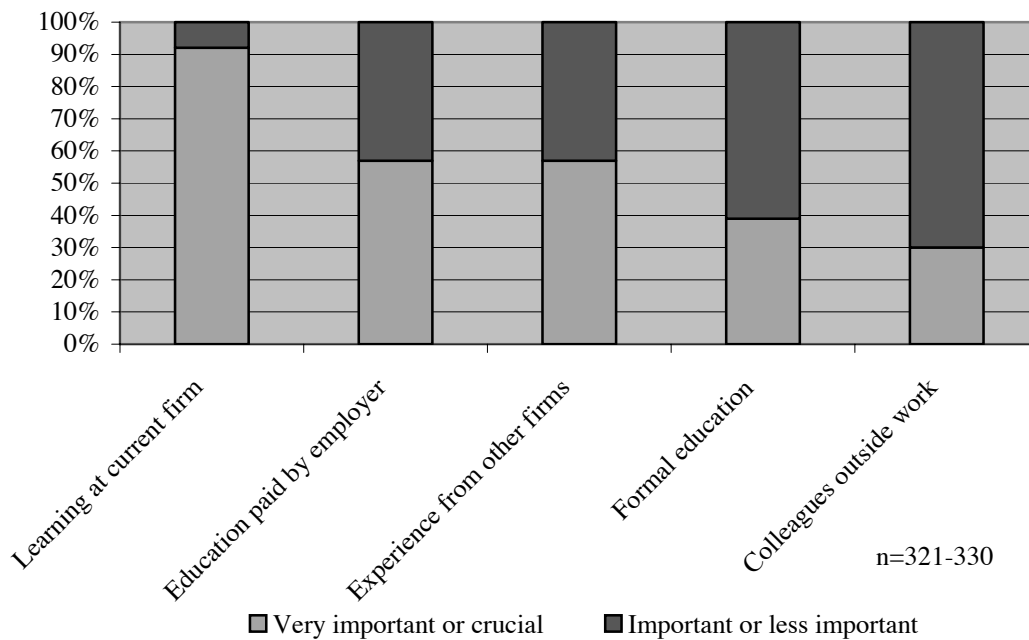


### *Sources for Competence*

By far the most important source of learning according to interactive media workers is individual learning at the current company (figure 23). 92 per cent rank this as crucial or very important. This is followed by experience from other companies, which 57 per cent of respondents see as crucial or very important. It is likely that this at least partially also refers to individual learning, although it has taken place in another firm than the present one. Education paid by the current employer ranks very low in the sense that thirty per cent view it as less important, the lowest category, and only two per cent as crucial, the highest category (not shown in figure). These findings, which are in line with those reported by managers in previous studies (Sandberg and Augustsson 2002; Augustsson and Sandberg 2004a compare Sandberg et al 2005), show that learning on the job is seen as far more important than courses, or formal education for that matter (In the New York City survey by Batt et al, ‘self-teaching’ was also ranked as the by far most important source of new media skills).

Here we should however be aware that more than 75 per cent of interactive media workers answered that they have some university or other post secondary education, and this educational basis may simply be taken for granted although it may be a precondition for being able to learn at work as a certain level of knowledge might be required to comprehend knowledge areas and develop skills. (Augustsson and Sandberg 2004a). It might further be the case that workers, just like managers, attribute some skills to experience and personality when they in reality are partly due to formal education (cf. Sandberg et al 2005).

**Figure 23.** The importance of different sources of workers' current competence within interactive media.

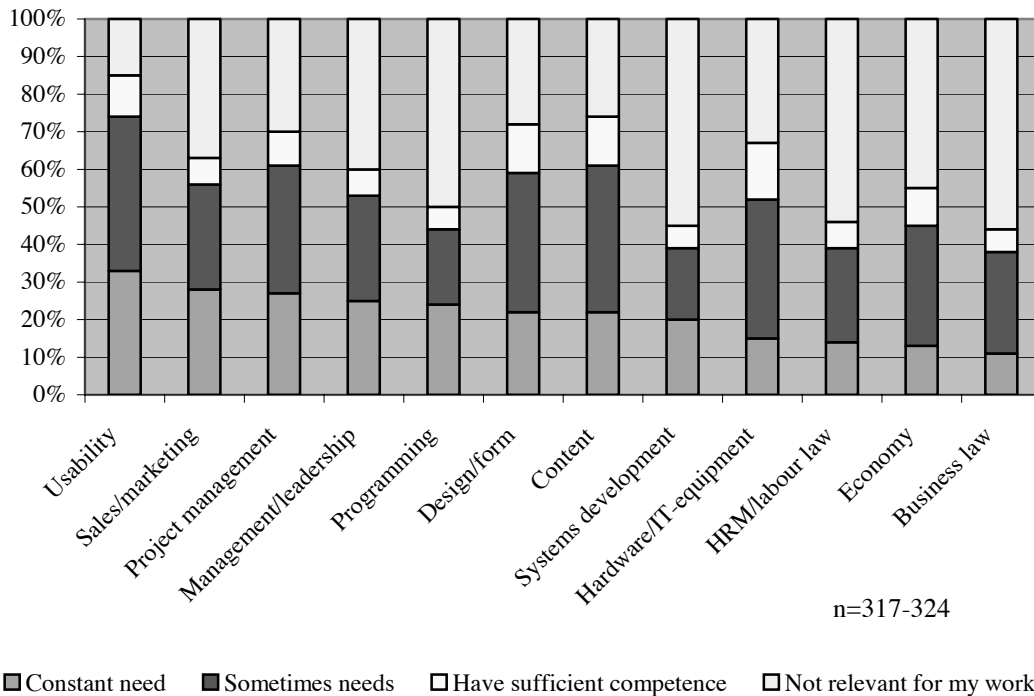


### Needs for Competence Development

Figures 24 and 25 show the extent to which interactive media workers report that they are in need of more competence development within different areas related to interactive media production broadly defined. Figure 24 shows the responses of *all* employees, which is useful not least in order to investigate the areas that employees do not see as relevant for their job. According to the results, there are several areas where more than half of interactive media employees say that they are in need of competence development, either constantly or sometimes, e.g. in content, usability, project management and sales. Usability ranks highest with 75 per cent of workers saying they need such competence development. Usability is also the area with the lowest proportion of workers (15 per cent) answering that it is not relevant to them.<sup>32</sup>

<sup>32</sup> The experiences at the Center for user-oriented IT-design (CID) at KTH The Royal Institute of Technology, is that many usability experts have met difficulties when trying to implement usability studies and user-oriented design in practice. The fact that so many interactive media workers now see usability as relevant and want further competence development in the area may be a sign that usability is becoming an accepted aspect of IT design processes.

**Figure 24.** Interactive media workers' needs for competence development within different areas, in order to perform a good job. Per cent for all workers.

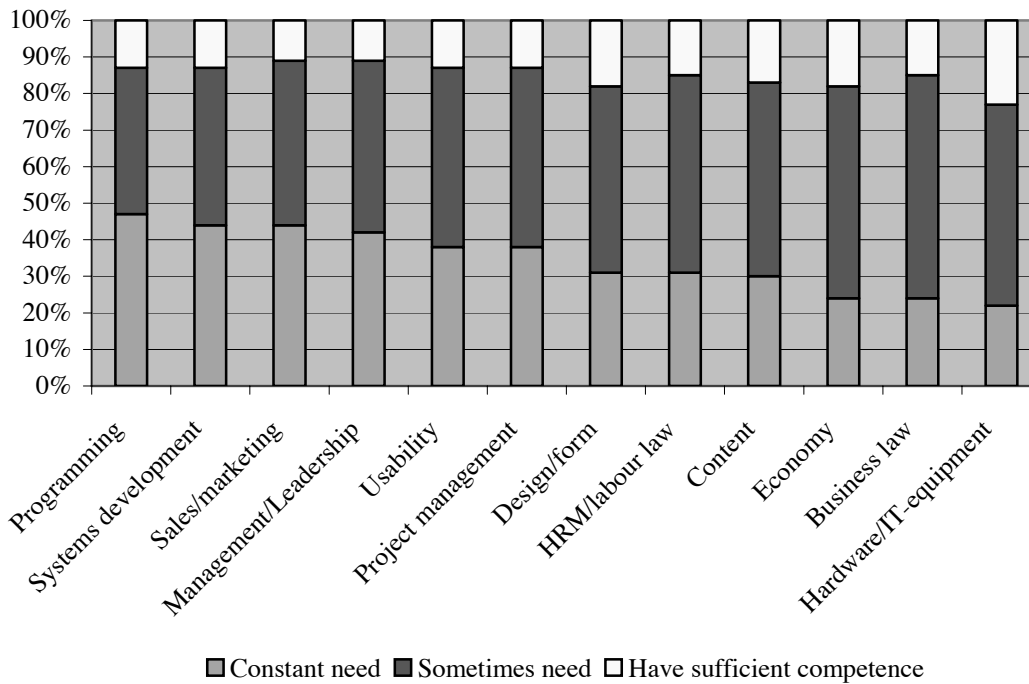


Most of the areas are, however, only relevant for a limited number of employees. The areas that are seen as not relevant to the largest proportion of interactive media workers are business law, HRM and labour law, systems development and programming, which roughly half or less see as relevant. The commonality between these areas is that they are handled by specialists rather than generalists. Business and labour law is only of concern to a minority of workers in certain positions and as previously shown in section two, those handling systems development and programming are seldom involved in other areas and others seldom in theirs, especially for women. Still, there is hardly a sharp division of labour within firms: nearly half of employees feel that the most specialised areas, systems development and labour law, are relevant to them.

If the need for competence development is only studied for those groups of employees that see the respective areas as relevant for their job, there are some changes (see figure 25). In all but one area (hardware and IT-equipment), less than one fifth of employees feel that they currently have sufficient competence and over 40 per cent of interactive media workers that have programming, systems development, sales/marketing or management/leadership as part of their working tasks feel that they constantly need competence development in the respective area. In other words, a large proportion of those that do handle e.g. programming and systems development feel that they constantly need

competence development, but their needs are hidden because most workers do not see the areas as relevant for their job. This supports the notion that competence development is a constant need for interactive media workers. It is interesting to find that almost 80 per cent of workers feel that they have to continuously develop their competence in at least one area relevant to their job.

**Figure 25.** Interactive media workers’ needs for competence development within different relevant areas in order to perform a good job.



Analysing individual worker’s response to all areas as a whole, we find that 23 per cent of workers do not perceive that they need *constant* competence development in any area relevant for their job. 19 per cent of workers constantly need competence development in one area, 16 per cent in two areas and 42 per cent in three or more areas. It should be emphasised here that this only includes workers who claim that they *constantly* need competence development to perform a good job, and not those who *sometimes* need it. Furthermore, it is not a case of wanting competence development because it would be interesting or might come in handy, but that it is necessary in order to perform a good job. Given this, the fact that 77 per cent of workers constantly need competence development in at least one area and almost 60 per cent of workers in two or more areas clearly shows that learning is an ever present aspect of working with interactive media production. It further indicates that pressures for constant competence development can be a potential psychosocial work related health problem and lead to stress when needs for are not met. Learning is usually seen

as beneficial and possibilities for work development a sign of good jobs. But when resources and time are lacking, it might very well turn into a burden.

## 5. Work, Working Time and Free Time

### Working Time

84 per cent of interactive media workers have an agreement with their company regarding weekly working time. The average number of hours for these workers is 39 per week, which is more or less the same as for working life in general. When asked how many hours per week these employees actually worked in the previous month, the average is 42. The average interactive media employee with agreed upon working hours worked slightly more than three hours overtime per week during the month prior to the study.<sup>33</sup> It should be noted that this figure also includes those who have been absent for different reasons (e.g. sickness, home with sick child, taken time off), meaning that those who actually do work on average had more overtime than reported here.

**Table 1.** Average weekly working time agreed upon and number of hours actually worked per week within the current firm during the last month. Mean and median.

	Number of hours	
	Mean	median
Agreed weekly working time	38.5	40
Average weekly working time last month	42.3	40

n=275/321

Workers in interactive media firms which have collective agreements more often report that they have agreements of weekly working time than workers in firms without collective agreements: 90 per cent compared to 77 per cent. 62 per cent of interactive media workers working in firms with collective agreements work outside the agreed hours while the figure for those in firms without collective agreements is 54. The presence of collective agreements thus means that it is more common to have an agreed upon working time, but also to work outside those agreements. Since we do not have information regarding the content of these collective agreements, this should not be taken as evidence that collective agreements do not work for interactive media producing firms. Further, collective agreements are no ban against overtime work, but a regulation of it.

<sup>33</sup> The average 3.3 hours overtime per week during the last month measured at the individual level differs from group mean levels, 3.8 (42.3-38.5) as only respondents that have replied to both questions are included in the calculation.



As mentioned, roughly one fifth (21 per cent) of interactive media workers have a second job. Having a second job is much more common among interactive media workers than in the working population at large, where 13 per cent of workers have one, and among technical specialists, where five per cent have one (comparisons based on Hallsten et al 2002). A large proportion of these jobs are as freelancer, 41 per cent. A considerable number of respondents have marked ‘other’, 35 per cent.<sup>34</sup> In many cases this seems to be traditional ‘extra’ jobs where they work a few hours here and there when needed without having a firm of their own. The extent of these second jobs, measured as working time, seems to be shifting over time. 17 per cent have not worked at all with their second job during the previous month and 70 per cent worked eight hours or less per week, i.e. one working day, during the last month. These second jobs are often not related to interactive media, 67 per cent reported that they worked no hours with interactive media.

**Table 2.** Average weekly working time spent at second job and hours per week worked with interactive media during the last month in this job. Mean and median.

	Number of hours	
	Mean	median
Average weekly working time last month in second job	7.8	5
Hours worked with interactive media in second job	2.4	0

n=70

### Work Time Preferences

40 per cent of respondents would like to work fewer hours per week than they currently do and 56 per cent are happy with the current workload. Only three per cent would like to work more hours per week. The group is so small that reliable comparisons between subgroups based on e.g. gender and family situation are hard to make, but there seem to be only marginal differences in this respect.

There is a significant negative correlation between preferred weekly working time and both agreed working time and the time actually worked per week during the prior month: the more hours agreed upon or actually worked, the more common it is that respondents would like to work fewer hours. This is especially the case concerning the hours actually worked. There is no cor-

<sup>34</sup> Time based salary work, e.g. having no scheduled working time and only being paid when working, was not included among the response alternatives given. It is likely that a quite large proportion of those that have marked ‘other’ have this type of job.

relation between desired working time and rights to overtime compensation. On the other hand, there is a positive correlation between the desired working time and the extent to which compensation has actually been received. Taken together, this seems to imply that the number of hours actually worked and the compensation received for whatever overtime work has been undertaken is more important in influencing employees' attitudes to their working time than formal agreements concerning working time and compensation. This is probably because formal agreements on both working hours and rights to overtime compensation are quite bad estimates of the actual situation for workers within the specialised interactive media producing firms (see below on compensation).

### **Overtime Compensation: Rights and Reality**

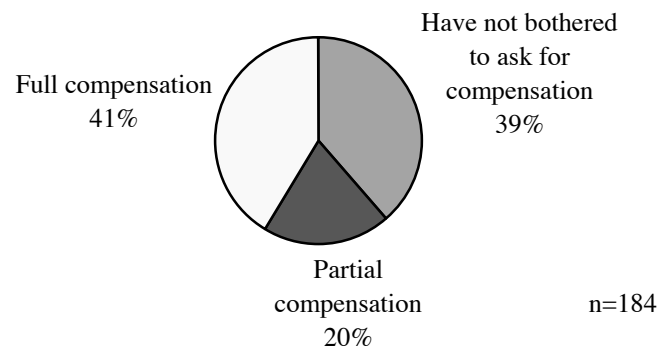
66 per cent, i.e. two thirds, of all interactive media workers have the right to overtime compensation. This figure also includes managers, owners and freelancers. Figures are not that different when only employees are studied, 69 per cent have the right to overtime compensation. Since only 66 per cent of all interactive media workers are entitled to overtime compensation, a considerable number of employees and other workers repeatedly work more than their expected hours without having the right to claim overtime. The figures in table 3, which only contain workers that actually *have* worked overtime, however show that a larger proportion of those that have right to overtime compensation than those that do not have that right have worked overtime (since 80 per cent of those that have worked overtime have right to compensation as compared to 66 per cent of all workers). The actual right to overtime compensation is further not decisive for whether one in practice receives overtime compensation or not. Looking at those interactive media workers that have worked overtime during the prior month, we find that 20 percent say that they have no right to overtime compensation, but a third of them still received either full or partial compensation. Among the 80 percent that do have a right to overtime compensation on third has received it (table 3).

**Table 3.** Cross tabulation of the proportion of workers that have right to overtime compensation and the proportion that have received such compensation (either in full or partial). Only workers that have worked overtime.

		Have right to compensation		Total
		Yes	No	
Reveiced compensation	Yes	53	7	60
	No	27	13	40
Total n=180		80	20	100

So, although an agreement of overtime compensation does not guarantee that you actually get it, the chances are twice as high.

**Figure 26.** Occurrence of compensation for overtime work during the prior month.



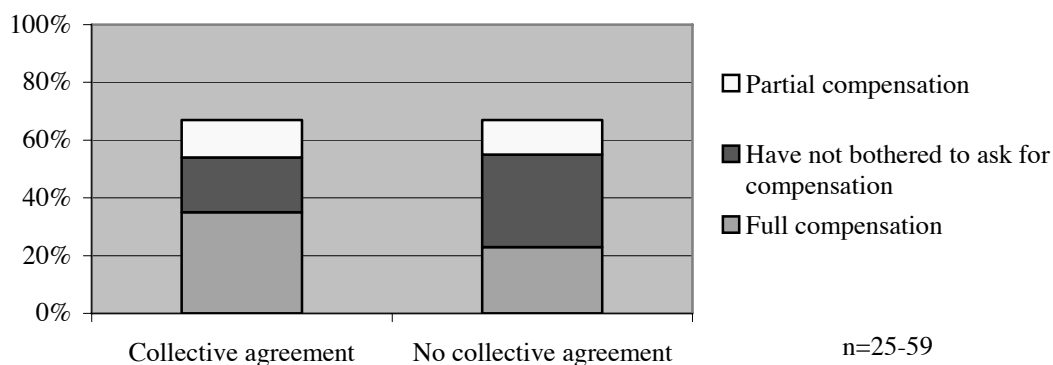
Of all those who have worked overtime during the last month, 41 per cent have been fully compensated for their extra workload, whether they have the right to it or not (see figure 26). As many as 59 per cent of interactive media workers either do not bother to ask for overtime compensation or only receive partial compensation. It is very likely that many of these workers are allowed to handle their own compensation informally by working less hours when there is less work to do (Sandberg & Augustsson 2002). This is also supported by the fact that the most common form of compensation for overtime work is time off. 75 per cent of those who have worked overtime and received overtime compensation during the prior month have taken this in the form of time off. Differences when looking only at employees are small, a few per cent more receive compensation in either money or time, and a few less take it out as holiday.

This situation is to some extent understandable given the nature of the process of interactive media production. It is a project organised job involving several workers, and it is not easily restricted to certain hours and it is hard to control: the working process might be in a phase where it is difficult to break for the day and it is hard to determine if and when someone is working or not. Therefore, it makes sense for both firms and employees to let workers handle compensation in time rather than money. The fact that overtime is taken out as time off might also reflect a shift in economic climate for firms. There is no longer a general shortage of skilled labourers and abundance of capital and work to be done, but a shortage of both work and capital for many firms.

Interactive media workers in firms without collective agreements refrain from asking for compensation for overtime work to a greater extent than those working in firms with a collective agreement. 32 per cent of interactive media workers in firms which lack collective agreements have not bothered to ask for compensation compared to only 19 per cent in firms with collective agreements. Furthermore, only 23 per cent of those in firms without collective agreements have received full compensation for overtime work during the last month, while the figure for those working in firms with collective agreements is 35; the proportion receiving full compensation is quite low in both groups. It does seem that collective agreements do play a role in this case. It is however given our data not possible to determine the causal relations, it might be that firms which in the first place are willing to give (or rather firms in which workers in the first place are willing to ask for) overtime compensation are more willing to sign collective agreements.

One also has to consider that factors other than economic incentives seem to encourage employees to work longer hours and also harder and with more commitment. Parts of working life, including interactive media, are changing with a growing importance for aspects such as both self-realization and group solidarity, and loyalty or felt pressure due to extensive work loads. New forms of management with set goals for at the same time the quality of output and the time of delivery (replacing detailed, direct control) contribute to such changes (Alvesson 2003; du Gay et al 1996; von Otter 2003b; Sandberg 2003b).

**Figure 27.** Occurrence of compensation for overtime work during the prior month among employees in firms with and without collective agreements.

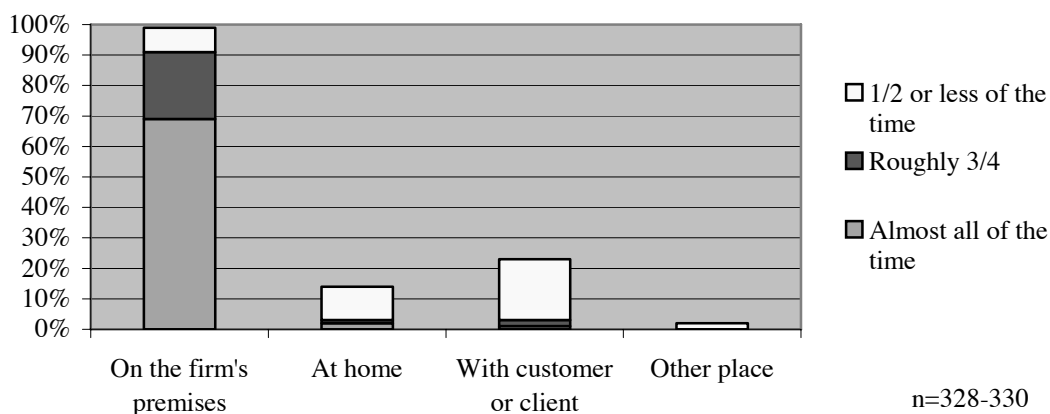


The average proportion of working time during the previous month that workers worked with interactive media production is 73 per cent, the median being 90. This suggests that interactive media production is not a minor task for these workers, but the actual focus of their job, although the firms in which they work may be active in several other fields than interactive media production (compare Sandberg and Augustsson 2002). Still, 28 per cent of workers have worked

50 per cent or less with interactive media and within the firms there are also the ten per cent of workers in our sample mentioned earlier that say they do not work with interactive media at all. Male workers spend a greater amount of their working time on interactive media, 76 per cent, compared to 67 per cent for women. This largely depends on the differences in working tasks between male and female workers. This again points to gendered differences of identification: managers estimate that a lower proportion of women are part of actual production than the women workers themselves do. Women interactive media workers to a lower extent than men feel that the tasks they do are part of interactive media, but still identify themselves as interactive media workers. The question might be differences of opinion regarding how much of your working time you have to spend on interactive media production to be considered an interactive media worker.

### *The Location of Working Tasks*

**Figure 28.** Average proportion of working time spent at different locations..

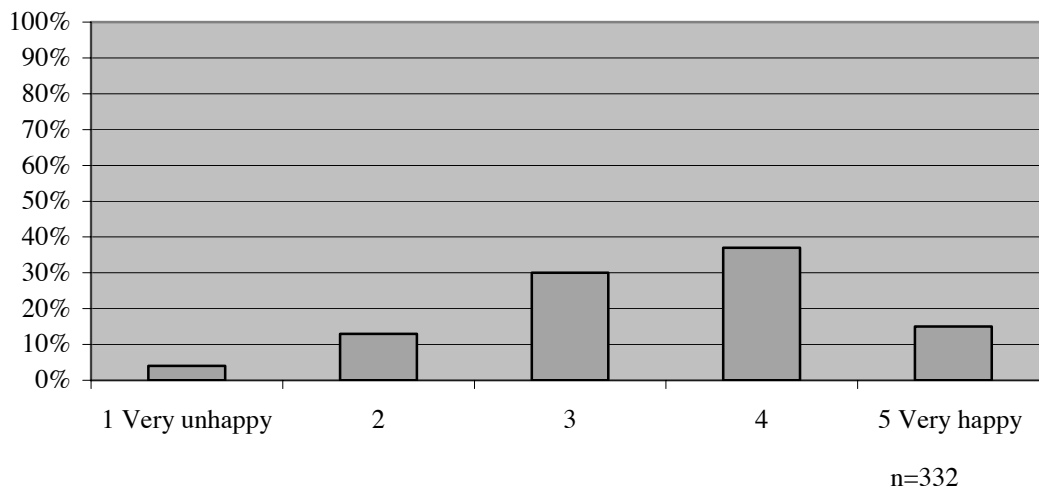


Despite talk of the possibilities of tele-working and the decreasing importance of physical location for work due to new forms of ICT (Cairncross 1997; Reich 1991), it is clear that the majority of working hours are spent on the premises of the company where one is employed (see figure 28). Nearly 70 per cent of workers spend almost all of their working time on the firm's premises and more than 90 per cent spend three quarters or more of their time there. Only a small proportion of interactive media workers within each firm tend to work in places outside the firm's office. A large part of the rest of the working time seems to be spent with customers or clients, although seldom more than a quarter of working time. Practically no time is spent at home or some other place (for instance in travel, public places, etc.). It is worth noting that even for interactive media workers, a highly ICT- an Internet-connected group, most working time is spent in the workplace. It is also clear that to whatever extent interactive

media workers function as IT-consultants, they spend only limited time at the premises of their customers.

## Work Life Balance

**Figure 29.** Satisfaction with the current life situation concerning balance between work and free time.



Most interactive media workers seem to be rather satisfied with the balance between work and free time, despite often working overtime and spending unpaid hours outside of work on competence development (figure 29). There are no, or insignificant, differences regarding this issue between women and men. For instance, four per cent of both men and women are very unhappy while 15 per cent of men and 16 per cent of women are very happy with their current life situation. It seems, however, that owners and partners are generally more happy with the balance between work and free time than permanent employees: 64 per cent of owners score four or five (very happy) on the scale, as compared to 48 per cent of employees.

There is a significant negative correlation for interactive media workers between the average weekly working time during the previous month and their satisfaction with the balance between work and free time: the more hours worked, the less satisfied they are with the balance. There is also a significant correlation between workers' desires to work fewer or more hours a week and satisfaction with the balance mentioned: the more satisfied workers are with the balance, the more hours they would prefer to work.<sup>35</sup> This might be due to memory or temporary effects: when answering this type of questions people may have a tendency to base valuations on the current situation. Those that are

<sup>35</sup> R. -0.251 and 0.369, respectively. Both significant at the 0.01 level.

the least satisfied would then be those that currently or recently have had problems combining work and private life.

**Figure 30.** Interactive media workers' estimates of how often they have problems combining work and private life.

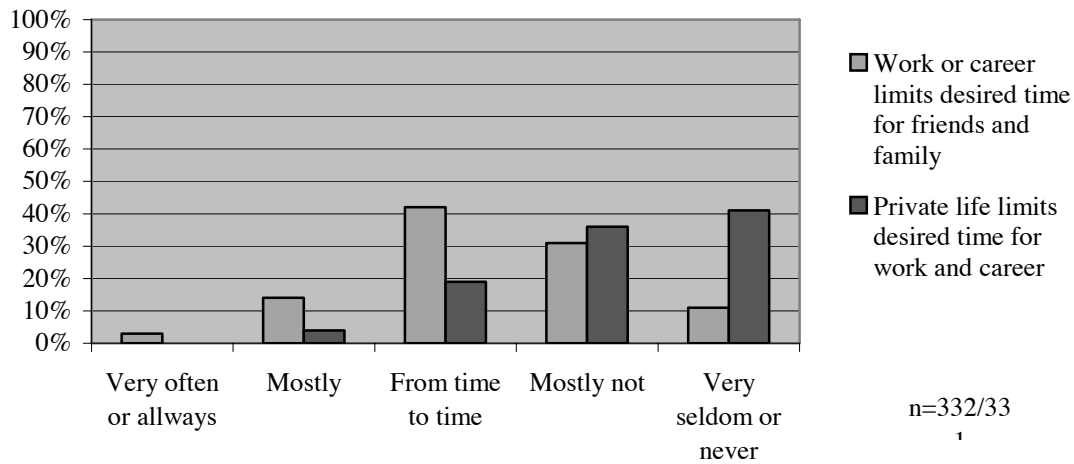


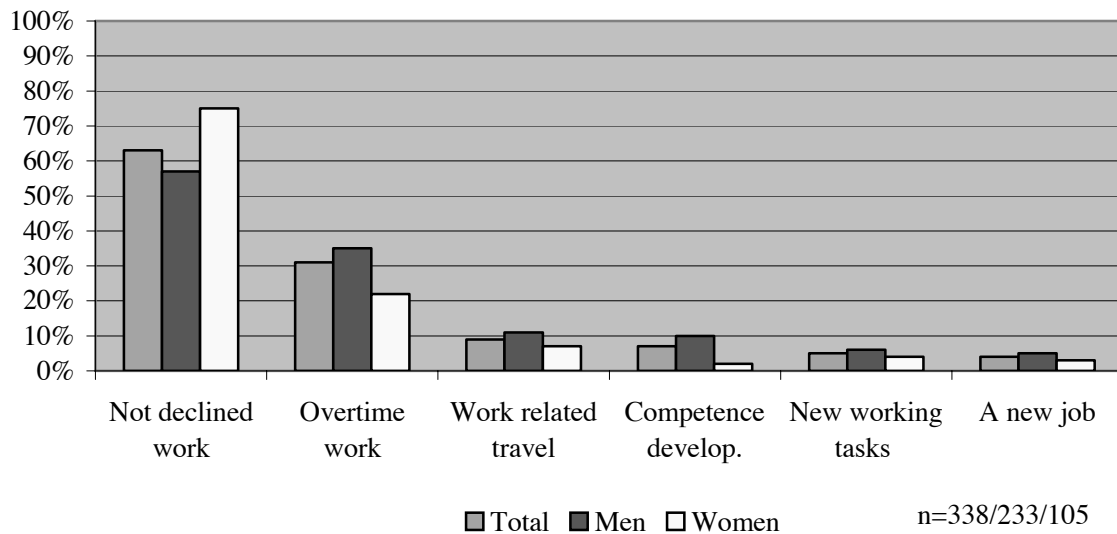
Figure 30 shows that workers consider it more common that work related tasks and career limit the desired time spent with family and friends than the other way around. This is similar for both women and men. Although not necessarily supporting the hypothesis of weakened borders between work and private life, this indicates that working time may be invading the private world.

This is further shown by the strong negative correlation between satisfaction with the work life balance and how often work or career limits the desired time spent with family and friends.<sup>36</sup> At the same time, there is no correlation between the limits rendered by private life on focusing on one's work or career and satisfaction with the work life balance. Although our questions are somewhat differently formulated here, we find a rather similar distribution of answers in the QPSNordic material from the general Nordic labour market.<sup>37</sup>

<sup>36</sup> R. -0.563

<sup>37</sup> Questions 105 and 106, see more on QPSNordic below in the section 'Comparisons with working life in general'.

**Figure 31.** Interactive media workers that have been forced to decline work related issues due to their family during the previous year. Only respondents with family (partner and/or children) included. More than one answer possible.



The most common work related factor that interactive media workers have been forced to decline due to their family responsibilities is overtime work, roughly 31 per cent have done this, while the rest score rather low. This seems reasonable given that the chance or need for overtime work is quite often recurring, while for example, new working tasks and new jobs occur less frequently. The fact that only approximately one third of those workers who have a family have at some time turned down overtime work is surprisingly low. This could imply that there are limited problems for interactive media workers to combine work and private life. It could, however, also mean that they have an ‘understanding’ family, or simply view their job or career as more important than their family. Somewhat surprising is that 68 per cent of those with children living at home state that they have not been forced to decline any work related issues compared to 55 per cent of those that do not have children living at home (not shown in table). It might be that partners (usually women) are expected to take care of children and thereby not limit work, or that work demands are already so high that children do not make a difference.

There is a higher proportion of men than women among those who have a family that say they had to turn down work related demands and offers during the last year. 57 per cent of men and 75 of women state they did not have to give up any of the work related tasks. Thus 43 per cent of men state they had to give up some work related task while only 25 per cent of the women said so. It could be that men actually have to turn down more work because they are offered work related opportunities more often than women, but it could also simply be so that men perceive that they are forced to decline work to a greater



extent than women, i.e. there might be a discrepancy between the actual and perceived action, because men may have higher expectations on possibilities to focus on work and career. Men and women would then have different views on what constitutes a normal or acceptable balance between work and family. As said above, it could also be that men are given more opportunities that potentially intrude on the family, whereas women might be disqualified even from offers just because of having a family. Even though these are speculations, they are worthy of consideration given that women are the traditional family caretakers and even though this pattern is changing today, it still reflects the different working lives of women and men. Women might, for instance, not be eligible for management positions due to having a family or planning to have children whereas the same does not hold true to the same extent for men.

In general, there does seem to be a culture of acceptance for high demands of work within the interactive media sector. This culture of acceptance has been fuelled by stories and myths of devoted and creative computer geniuses working around the clock to invent fabulous gadgets (e.g. Holmberg et al 2002). Even though some of the stories are probably exaggerated, they seem to have made long working hours a source of status during the hype years (Eckerstein et al 2002) and they have a long history in technology related professions (Kidder 1981; Kunda 1992; Levy 1994). This may change as the industry matures, workers get older and form families, and jobs are normalised. But there are several older occupations and sectors where a culture of acceptance for work demands and the idea of the job as a vocation prevail, at least among some workers: journalism, research, engineering, politics, etc. (Weber 1922/1958).

It seems as if interactive media workers in firms that lack collective agreements in general are more satisfied with their current work situation regarding the balance between work and free time, although the differences are rather small (17 per cent as compared to twelve). Interactive media workers in firms with a collective agreement also feel less autonomy paired with high work demands, work more overtime and are less satisfied with what they accomplish. As contended in the introduction to this report, the reasons for differences due to e.g. collective agreements are complicated to analyse and explain. One basic factor is the level of aspiration which may be higher on workplaces with collective agreements with workers more active e.g. in the fields of work environment, pay systems etc. it is easier to identify 'abnormalities' when there is a written agreement stating normal conditions than when such an agreement is not available. Collective agreements might thus function as institutionalised artefacts that influence aspirations, norms and values even if the statutes of the agreement are not always met.

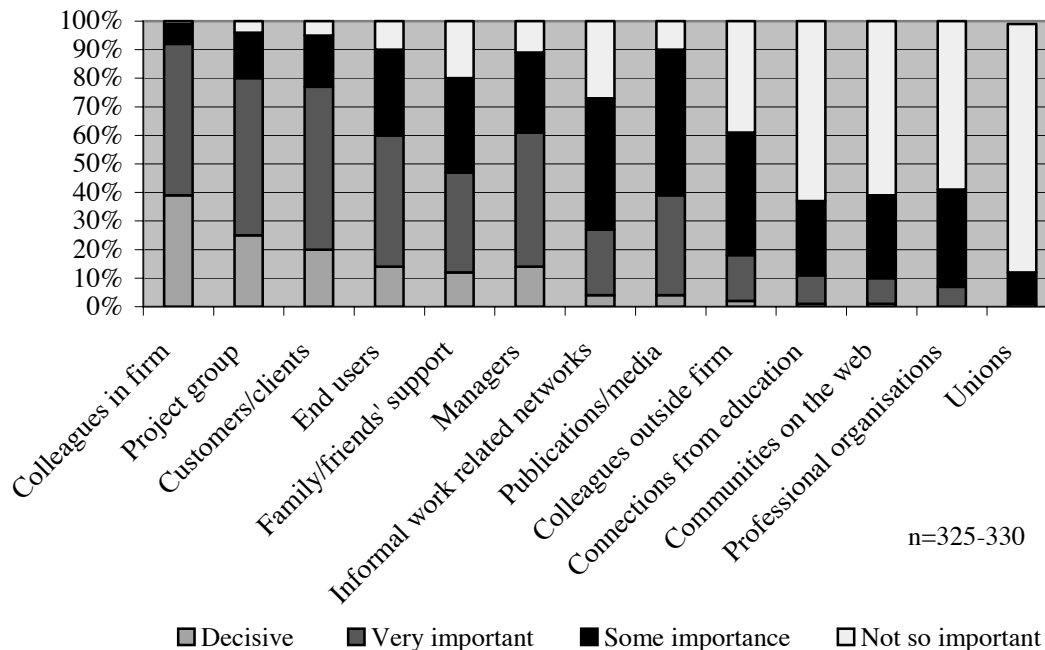
## 6. Work Demands and Control

In previous chapters, we have presented results regarding interactive media workers jobs and working tasks, their background and career paths, education and competence development, as well as working times. In this chapter, results are presented on factors that motivate and contribute to workers' possibilities of conducting a 'good' job which they are satisfied with, as well as indicators of work related demands and control. We present some interesting comparisons with other occupational groups later in the chapter. A lot of the data are subjective, based on respondents' perceptions of their job, and comparisons are between the *opinions* held by different groups.

### **Support**

A presently generally accepted theory in work life research with support from numerous empirical studies is that perceived psychosocial work health is largely dependent on the relation between work control, work demand and social support. Good psychosocial health is more commonly found in jobs that are demanding enough not to be tedious and offer sufficient levels of control, where social support can dampen lack of harmony between the former two factors. With questions earlier used by colleagues at the Work Health department at NIWL, we have investigated these matters for interactive workers and will later make some comparisons with other occupational groups. The results concerning support are presented in figure 32.

**Figure 32.** The importance of different factors for interactive media workers' possibilities of performing a good job<sup>38</sup>.



Colleagues at work play the most important role for interactive media workers' possibilities to do a good job, as can be seen in figure 32. This is true for both women and men even though when stating which factors are *crucial* for good work performances, the proportion among men in this group is higher than that among women. 41 per cent of men state that workmates are crucial as compared to 33 per cent of women. Other groups related to the own firm, such as the project group and managers are also of importance. However, women place more importance on managers than men, 18 cent compared to nine per cent. This might partially be explained by the lower representation of women among management: men are less dependent on managers because they themselves are more often managers.

The high level of importance given to the role of customers can partially be understood as a result of the often unstandardised nature of interactive media products, which means that close and repeated communication between producers and clients is necessary to ensure that a satisfactory solution is developed (Augustsson 2005a). Interesting to note is also the high degree of importance given to the support of family and friends, especially given earlier reported findings regarding possibilities of combining work and private life and

<sup>38</sup> The category 'not relevant for my job' was included in the questionnaire for the categories 'colleagues in firm', 'project group' and 'managers' because they do not make sense to all groups of employees. These have been excluded here to enable comparisons. Three, seven and eleven per cent of respondents marked the respective excluded 'not relevant' categories.

the relatively low extent to which the family restricts work. Women and men place equal importance on family and friends' support as being crucial for good work performances. Women would thus need to be recognised and legitimised by management to a greater extent than men in order to be able to perform a good job. This might be because (male) colleagues do not perceive of a woman as a 'real' interactive media worker unless she is authorised by a (often male) manager.

Interactive media workers' say unions play a very limited role in their possibilities to carry out their work well. This is not surprising as the role of the unions in the interactive media sector has not mainly been one of influencing factors connected to the possibilities of performing a good job. As the interactive media sector is young and many firms lack a tradition of union presence, the unions have had to start from the beginning by establishing themselves as legitimate employee representatives and negotiating partners, as well as making sure basic rights and requirements are met, such as written employment contracts.<sup>39</sup> Lately unions, like Sif, have put a strong emphasis on work environment, work organization and stress within IT firms in general.

Also professional organisations and communities on the web are given very low rates. The latter is interesting to note, as we are concerned here with a sector that to a high extent is developing on-line solutions.

Looking again at the factors shown in figure 32 it is clear that those given a high importance are those closely linked to the daily work situation. Professional organizations, communities on the web, unions, and also connections from education are all given low rates. It is probable however that these factors are important background and enabling factors in creating a milieu enhancing work and product quality in single firms.

One may here compare with the computer games industry. It has been reported that web based communities play an important role in the development of computer games. In some way this seems dependent on the geographically dispersed nature of games development (King and Borland 2003). On-line communities in general appear to be more relevant for the users than for the producers of interactive media solutions. As in the case of the low proportion of telework reported earlier, it is likely that developers of interactive media solutions not only know the solutions' strengths, but also their weaknesses in relation to co-operation, support and learning. Following this, interactive media

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<sup>39</sup> Unions today seem to have a limited influence on work organisation issues in Swedish working life in general (Levinsson, 2004). This has been the case since the economic crisis of the 1990s when the unions had to change from demanding good jobs to fight for any jobs at all due to high levels of unemployment. During the dot.com boom and crisis, the unions further had to focus much of their attention on e.g. attracting members and assisting them in times of layoffs and shutdowns.

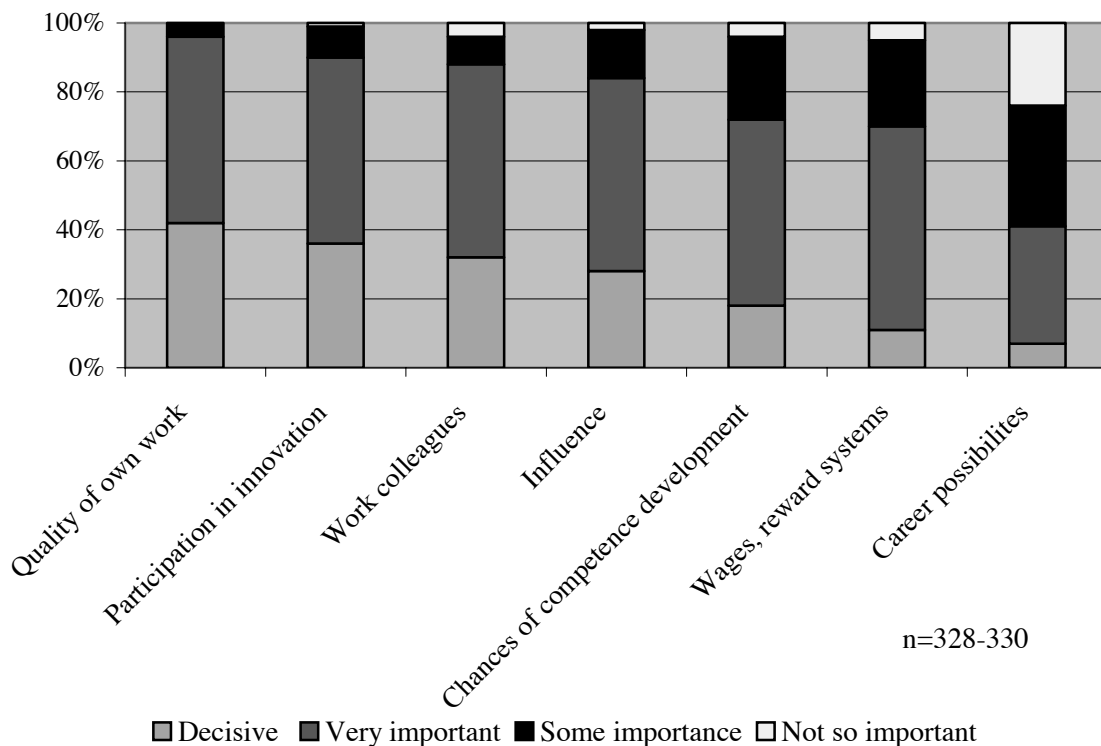
workers do not rely on interactive media solutions to the extent one might expect, at least not with certain issues.

In the same way, outsiders sometimes overestimate the extent of the process of developing interactive media and IT solutions that is computer aided or computer dependent. A large proportion of the development process consists of talk and discussion aided by pen and paper, rather than complex software (Augustsson 2005; Larman 2002). The actual time spent writing code or conducting advanced calculations is often less than half of the time.

### Motivation

The question remains to be answered why many workers are motivated to work as hard as they do even though salaries are not that high (see chapter eight below) and overtime compensation is often not given. What is it that motivates workers? In figure 33, the workers' answers to this question are presented.

**Figure 33.** The importance of different factors for interactive media workers' work motivation.



The most important motivational factors for interactive media workers seem to be the quality of the products and services delivered and the possibility to participate in innovation and development, followed by work colleagues and influence, and, on a somewhat lower level, possibilities for competence development. Of less importance, although not insignificant, are wages and

career possibilities. As can be seen, career opportunities is the only factor that a considerable proportion of workers, i.e. 25 per cent, view as not so important.

Some minor differences can be found between men and women regarding motivational factors. A smaller proportion of men than women view possibilities of competence development as important, which may be because they spend on average longer time for learning already: competence development is less motivational for men because it is not as scarce as for women. On the other hand, a larger proportion of men than women view the possibilities of participating in innovative development as a motivating factor. A larger proportion of permanent employees than owners view possibilities of competence development, career opportunities, participation in innovative development and wages as important, whereas the owners view work colleagues and to some extent influence and the quality of products and services as more motivational.<sup>40</sup>

This supports the image of workers within the new economy as being more interested in the actual development of new technical innovations than making a career or earning lots of money (Levy 1994; Himanen et al 2001). Given that the nature and culture of interactive media production is one where creativity, novelty and innovation are at the centre, these findings are not surprising (Darin 2003; Kidder 1981; King and Borland 2003; Uvell 1999). Yet it is interesting to see the extent to which individuals holding these values have found their way into the interactive media sector, alternatively (or a combination of the both), how workers have internalised these values (compare Gay et al 1996; Garsten and Jacobsson 2004; Sandberg 2003b). In many ways, these are values considered to be attractive for the human relations and quality of working life movement and pedagogies: possibilities to participate in meaningful and challenging work that offer opportunities for social interaction with colleagues as well as competence development and learning. In a sense, it seems that it is the factors that have the least to do with work, or those that make interactive media jobs most different from traditional views of what work in industrial society is like, that motivates workers. Further down, we present findings on the extent to which workers actually achieve or are provided with conditions that motivate them.

However, interactive media workers do not seem to be exceptional in this respect. Instrumental values of work (pay etc.) are also described as less

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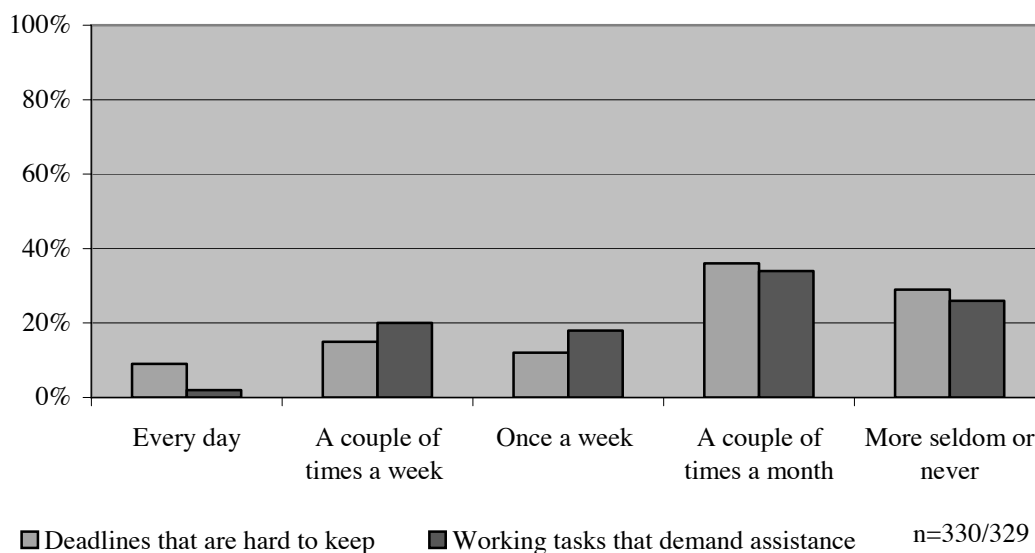
<sup>40</sup> Since men make up a larger proportion of owners than women do, there are some similarities between on the one hand the responses of men and managers and on the other hand between women and permanent employees. However, the differences between the two alternative subgroups (i.e. men versus women and owners versus permanent employees) exist even if sex and position, respectively, is taken into consideration.

important than intrinsic values of work in the population in general<sup>41</sup>, although the actual focus on and innovative aspects of the developed solutions are not necessarily emphasised to the same extent.

### Work Demands

Along with the motivational playfulness previously described, high demands in terms of tight deadlines and long working hours is the most common view of working life in the new economy. The debate about stress and burnout in Swedish working life became centered on the IT-sector, and especially the workers in the recently formed interactive media sector. Of the articles that have been written about work and health in the Swedish interactive media sector, the majority focus on overtime and stress due to high work demands and tight.

**Figure 34.** The occurrence of deadlines that are hard to keep and working tasks that are found so difficult that there is a need to ask for assistance.



### *The Pressure of Deadlines*

72 per cent of interactive media workers report they have deadlines that are hard to keep at least a couple of times per month. This actually measures two things. First, the occurrence of deadlines and, second, deadlines that are hard to keep. Here we may compare free lance journalists among whom less than half, 32 per cent, say they have difficulties meeting deadlines that often (Allvin et al 2000). Interactive media work thus seems to be quite demanding if measured by

<sup>41</sup> One indicator might be that in the working population at large, 79 per cent say that work gives them personal satisfaction (the ULF 2000-2001 study of living conditions, www.scb.se)

the pressure of deadlines. One might have thought that the freelance journalists have tough deadlines to meet more often than interactive media workers given that they work for themselves for multiple clients, while interactive media workers mostly are full time employees. (26 per cent of interactive media workers among our respondents are owners or partners, almost 70 percent are permanent employees and only a few per cent are freelancers. It should be noted however among the companies in our 2001 manager survey one quarter of the companies have no employees and it is probable that quite a few of them work as freelancers for other companies based on business contracts rather than employment contracts).

The pressure in interactive media work can perhaps be explained by a combination of several factors: small start-ups with the employer working in the company, pioneering spirit, very high levels of competition, the process of shake-out of companies and a belief in the need for rapid innovation (Holmberg et al 2002) and as a result constant needs for competence development (Augustsson and Sandberg 2004a). The nature of the solutions developed is furthermore one that usually necessitates deadlines. The solution often must be completed by a particular date and handed over to customers. In some cases, contracts state that failure to meet deadlines lead to decreased payments. Further, the often project-based development process of interactive media solutions might be divided into shorter stages, all of which have their own deadlines (as seen e.g. in the semi-standardised contracts developed by the trade association Promise). The latter explains the occurrence of deadlines, but not that they are hard to meet, which is due to the relation between on the one hand work load and on the other time and competence.

Pressures to meet deadlines are not as common among all groups of interactive media workers. The more often one handles graphic design and content production, the more often one encounters deadlines that are hard to meet. The situation is similar for those handling programming. Workers handling mainly marketing and sales, administration and business management are less likely to experience deadlines that are difficult to meet. Thus one cannot conclude that business owners feel more pressured, at least not in terms of deadlines, than employees do. This is most likely not limited to interactive media. Through contemporary changes of working life with an increased use of result based rewards and an 'audit society' (partially aided by interactive media and IS/IT solutions; Ward and Peppard 2002) and project based work, a growing proportion of all workers, units and workplaces are repeatedly (or even constantly) evaluated and required to perform and deliver at specified points in time. Individuals that can not meet the demands of managers, owners, and customers, might potentially be fired, and organisational units who fail to meet these demands may be shutdown, outsourced or purchased by other firms (du



Gay and Salaman 1992; Garsten and Jacobsson 2004; von Otter 2003a; Sandberg 2003a). Following this, the pressures traditionally associated with managers due to factors external to the firm and employer responsibilities have increasingly also become an everyday reality for employees. To this can be added the pressure that creative and knowledge workers experience due to quality and performance goals they have set up themselves (see a discussion of burnout in the following section), a pressure not unrelated to pressure they are subject to from the firm and the market.

### *Needs for Assistance*

74 per cent of interactive media workers have working tasks that demand assistance from others a couple of times a month or more often. This is especially the case for workers who are involved in programming. Their need for assistance from others is higher than for all other groups, 28 per cent of those involved in programming require assistance at least a couple of times a week as compared to 22 per cent in general for interactive media workers. This seems reasonable, as programming is a complex area involving a number of different aspects and the likelihood of mastering them all is minimal. This is true, on the other hand, also for other tasks within interactive media production.

The need for 40 per cent of workers to ask co-workers for assistance at least once a week may help explain why such a large proportion of their working time is spent on the firms' premises and not somewhere else, although many workers have both the technological equipment and knowledge to work elsewhere. The firms' premises, i.e. the office, is the most likely place to find co-workers whom one can ask. Further, as assistance between colleagues at work is a reciprocal process, it is likely that workers will be more inclined to make themselves available to assist others in the future even though, given the workload, it might make sense *not* to make oneself available to assist others in the short run.

There is a rather strong correlation between the prevalence of deadlines that are hard to meet and the need to ask others for assistance to manage complex working tasks<sup>42</sup>. This may suggest that it is the complexity of the working tasks, rather than the quantity, that leads to work pressures related to deadlines. This might further explain why such a large proportion of workers feel they have insufficient competence in several areas relevant to their job, the desire for competence development and its role as a source of motivation. With further competence development, there will hopefully be less need to ask others for assistance (which one might have to wait for) and thereby easier to manage tasks and thereby reach to meet deadlines. Whether competence development

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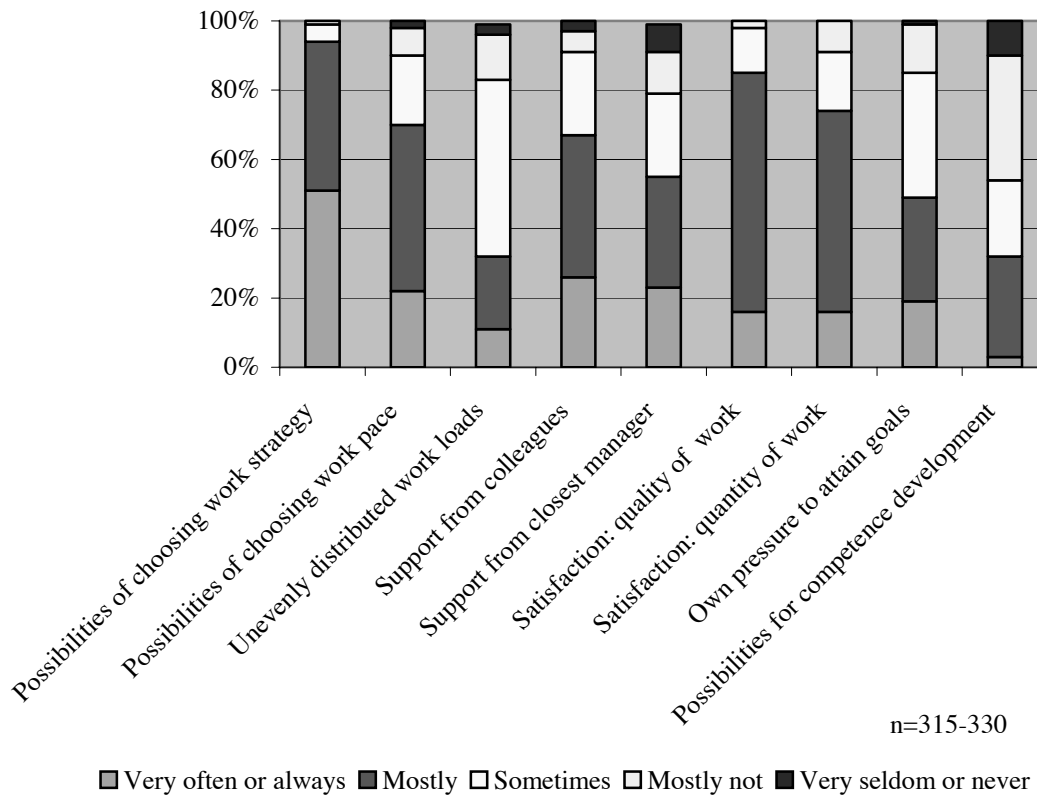
<sup>42</sup> Pearson 0.462, significant at the 0.01-level.

will actually reach these goals is less certain, as the term life-long learning captures (Lundgren 1999).

### Comparisons with Working Life in General

Most of the questions above are taken from a Nordic questionnaire intended to measure psychological and social factors in working life, the so-called QPSNordic survey (Dallner et al 2000). During the process of testing and validating questions for that survey, results from some 2000 questionnaires were collected from employees in different types of jobs and in different sectors of the Nordic economy. We will compare some of the results from our present survey directed at Swedish interactive media workers with results from the QPS surveys.<sup>43</sup>

**Figure 35.** The presence of demand and control factors in interactive media workers' job.



We have found that work demands due to an unevenly distributed workload occur to a high extent ('always or very often' and 'most of the time'), for 33 per cent of interactive media workers, compared to 41 per cent in the QPS material.

<sup>43</sup> Although the answer alternatives differ somewhat between the two surveys, we believe it is possible to make comparisons with the QPS surveys.

Although deadlines that are hard to meet are rather frequent for a large proportion of interactive media workers, it seems that their workload is more evenly distributed. It could of course be that there is more often than not a lot to do for large groups of interactive media workers, i.e. a constantly high workload. In the following, we compare the percentage of interactive media workers whose answers fall in the categories summarized as 'high extent' to the corresponding percentage in the QPS material.

Influencing decisions by deciding how to carry out a job is done to a high extent by 94 per cent of interactive media workers as compared to 67 per cent in QPS. 70 per cent control the decision of work pace, compared to 41 per cent in QPS. 67 per cent of interactive media workers receive support from colleagues and 54 per cent from the closest manager when needed, the figures are exactly the same in QPS. When it comes to mastering the job, 85 per cent of interactive media workers are satisfied with the quality of their work and 74 per cent with its quantity, compared to similar levels, 83 and 71 per cent respectively, in the QPS material.

From these comparisons we find that interactive media work generally appears to be strikingly similar to work in general regarding possibilities to master the job and support from managers and colleagues. However, interactive media workers have a comparatively much higher control and influence over work pace and way of carrying out the job, some thirty per cent units higher. They also have a more evenly distributed workload, which is one indicator of quantitative workload commonly used in studies of psychological and social factors in working life. The possibilities for interactive media workers to control and influence their job is partially due to the nature of interactive media production. It is complicated and probably irrational from an employer's point of view to have tight control of tasks, where managers decide in advance how a worker is supposed to tackle a problem during a development process or at what speed they should develop solutions, as it is largely a process of creativity and problem solving. Still, the interactive media workers that have the greatest opportunity to decide their work strategy and pace of work are those most involved in business management (often meaning partners or owners). There is a strong and significant correlation between involvement in business management and influence over strategy and work pace. Involvement in business management is further highly correlated with ownership. 75 per cent of those that focus on business management are also owners or partners of the same firm.

The final item in figure 35 shows that opportunities to obtain competence development one requires during working hours are very limited for interactive media workers. Only three per cent say they get such possibilities always or most of the time, 46 per cent of workers answer that they never, very seldom or

mostly not get such possibilities. This corresponds with other findings reported here and elsewhere regarding the limited possibilities for interactive media workers to get enough time for competence development (Augustsson and Sandberg 2004a and 2004b; Sandberg and Augustsson 2002). As shown in chapter four, interactive media workers in general use 11.7 hours a week for competence development, 6.3 of which is unpaid. Studies from working life in general further show that competence development is one of the areas where unions have the least influence. Roughly 75 per cent of Swedish managers and union representatives assert that unions have a limited role in competence development (Levinsson 2004), although union officials have stated that it is an area they should focus on in order to ensure the employability of their members (Garsten and Jacobsson 2004).

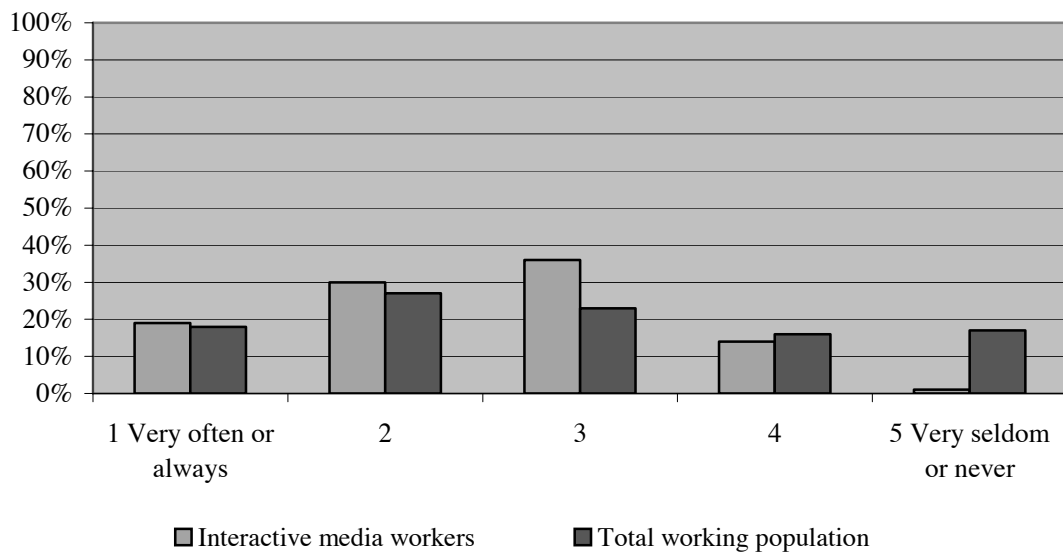
The question of whether one puts pressure on oneself to achieve that which one has made up one's mind to do is part of Lennart Hallsten's analysis of burn-out (Hallsten 2004 and personal communication).<sup>44</sup> He has shown that answers to that single question correlate strongly with a scale of performance-based self-esteem, which in turn is linked to risks for burnout. In other words, people that push themselves hard to meet their own goals tend to base their self-esteem largely on what they accomplish at work and this creates the risk of burnout.

Comparing Hallsten's data for a sample of the whole Swedish working population with our data from a sample of interactive media workers, we find that the latter have a clearly higher tendency to put pressure on themselves to perform. The distributions on a five point scale, ours ranging as above from 'Always' to 'Never', and Hallsten's from 'Fully agree' to 'Fully disagree', are as shown in figure 36.

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<sup>44</sup> Hallsten (2004) differentiates between burnout and wornout. Both score high on traditional burn-out scales (such as the BM, 'high strain'), but burnout also scores high on his scale for performance-based self-esteem.

**Figure 36.** The proportion of interactive media workers, and of Swedish employees in general, that put pressure on themselves to attain their own goals.



As can be seen, the clearest difference is that among the working population at large, as many as 17 per cent say they fully disagree and very seldom or never put that type of pressure on themselves as compared to one per cent among interactive media workers. This difference can be expected in this type of boundary-less job, with its risks for burnout (Allvin et al. 1998). Also, interactive media workers are younger and have a higher level of education than the population in general and such individual background factors tend to go hand-in-hand with higher values for performance-related self-esteem.

In our further analyses, we can see that there is no correlation between how satisfied interactive media workers are with the quantity and quality of the work they perform on the one hand, and how much they pressure themselves to meet their own goals on the other hand. This means that workers who push themselves hard very often or always are not more likely to feel satisfied with what they accomplish at work as compared to those that do not push themselves to the same extent, a situation (or attitude) that certainly increases the risk of stress and burnout as their self-esteem is based on work related performance (which is likely for many interactive media workers). This points to differences in satisfaction that are due to personality factors, i.e. differences in the relation between demands/possibilities and results, as well as abilities to create healthy and realistic borders for work (Hansson 2004).

A considerable proportion of interactive media workers put great pressure on themselves despite working long hours (i.e. more often overtime than not), they quite often do not feel satisfied with either the quantity or the quality of what they accomplish. They also often work in close contacts with demanding

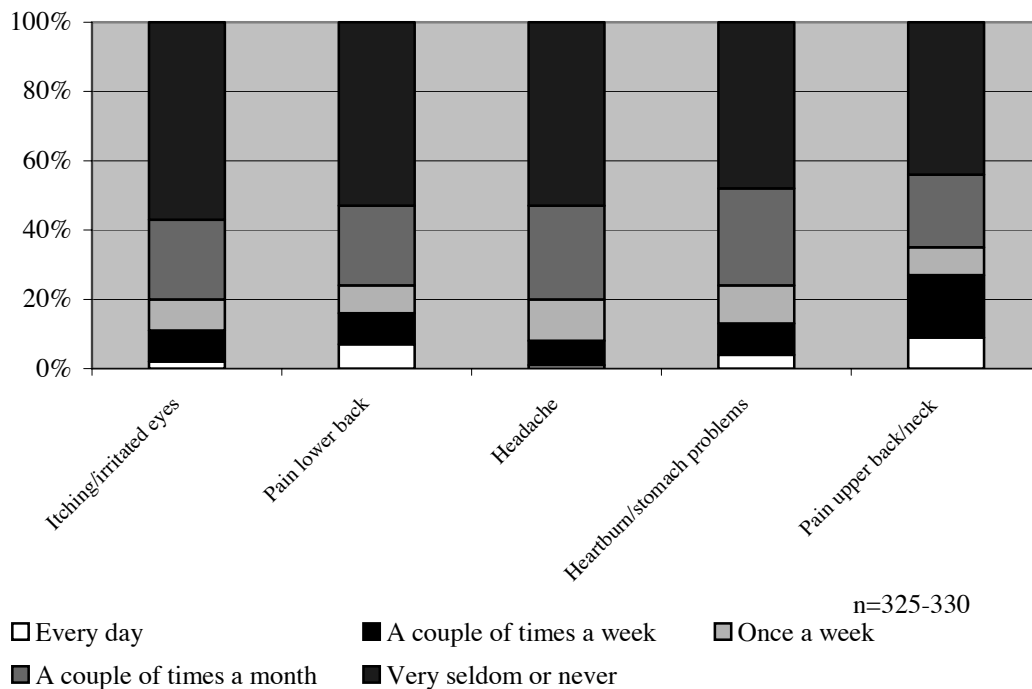
customers. This, in turn, may lead to increased risks of burnout, especially given that the quality of work and the possibilities to participate in innovative development projects are seen as some of the most motivational factors for the job. Work colleagues, who can function as a social support that lessens or even overrides the negative effects of external demands, might also lead to increased internal and group based demands and thereby increased risks for burnout: the grouping together of highly competitive, driven and motivated workers is hardly a way to decrease individual ambition, as can be seen for example in sports and science (Gulbrandsen 2000). For some workers, such clusters of highly competitive people might be even more damaging from a work health perspective.

## 7. Health and Sickness Absenteeism

Studies of the health situation of workers in computer aided jobs similar to those found in the interactive media sector have previously been rare, which is understandable given that it is a type of job that historically has existed only for minor groups of workers, but are now increasing (see for instance research on computer work at the NIWL by Toomingas and others, e.g. the web pages on computer work on [www.niwl.se](http://www.niwl.se); Melin 2003). This especially concerns workers who use computers for a large portion of the day for tasks other than typing and filing. But the physical work environment of interactive media workers, and even more so socio-psychological environment, consists of more than the immediate office desk and computer and there are several other factors that contribute to the health status of workers. Here, we investigate in turn the physical and psychosocial (tiredness and recovery) health situation and outcome in terms of sick absenteeism and presence.

## Work Related Health

**Figure 37.** Occurrence of work related pains in the last three months among interactive media workers.



Results concerning the health status of interactive media workers, measured as the existence and prevalence of different forms of pain, are presented in figure 37. The questions and alternatives regarding health used in the study of interactive media workers are taken from the ‘*Work Environment Investigation*’ undertaken by the Swedish Work Environment Authority and Statistics Sweden in 2001 (‘*Arbetsmiljön 2001*’, Arbetsmiljöverket and Statistiska Centralbyrån 2001).<sup>45</sup> Comparing average figures for interactive media workers with Swedish employees in general, we find that the two groups of workers are very similar. Summing each item above for interactive media workers who suffer a particular pain once a week or more, we find the following occurrences (figures from *Arbetsmiljön 2001* in parenthesis): upper back 36 per cent (32), lower back 25 (26), stomach 24 (24), headache 20 (24) and itchy/irritated eyes 20 per cent (20). One reason why the occurrence of interactive media workers’ health problems is so similar to that of the general

<sup>45</sup> The work environment 2001 is specifically directed to *employees*, including salaried managers. We do not know the extent to which working (and employed) owners and partners are included in their sample, although it appears that they are in smaller firms. Our present survey is directed to *all* those working with interactive media within our sample of firms, including working owners. Although there may be a slight difference in the type of individuals included in the two surveys, we contest that it is justified to make comparisons between the two.

labour force might be that the kind of work environment interactive media workers have, i.e. most of the time in an office in front of a computer, is becoming the typical work environment for an increasing proportion of the working population (Augustsson and Sandberg 2003).

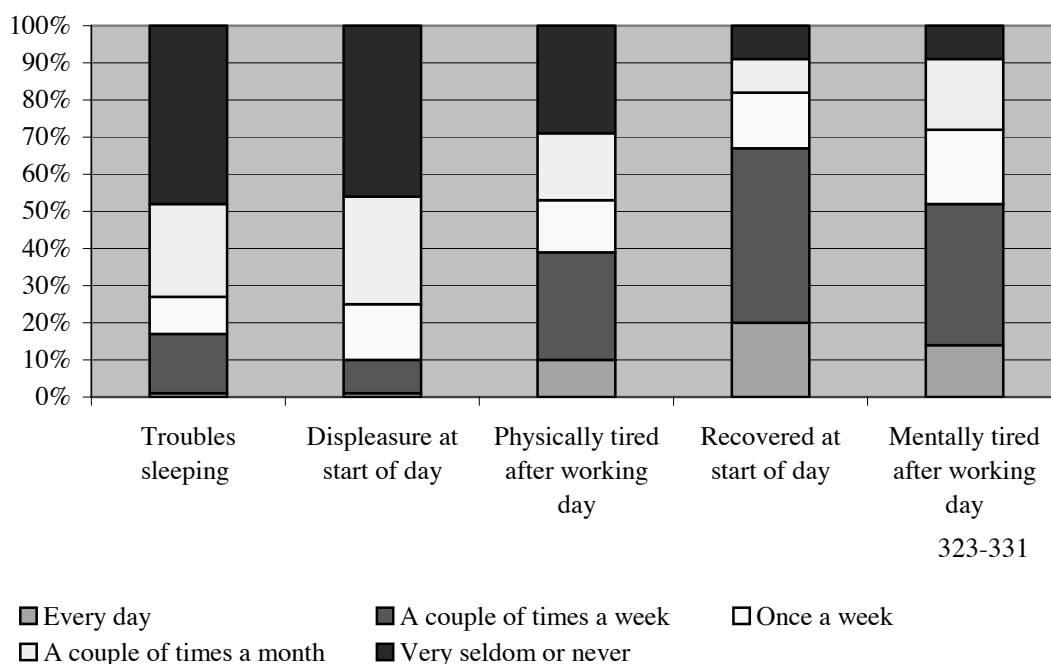
In spite of the noted similarities, there are differences both between interactive media workers and certain other sectors, and also between subgroups of workers within interactive media. The prevalence among interactive media workers of the health problems described above is probably rather similar to that of typical semi-professional office workers who spend a considerable portion of the day in front of a computer (e.g. advertising workers rather than call centre operators), but different from typical manual work.

Considering comparisons between subgroups of interactive media workers, we find that the differences between men and women, for instance, are small. The only significant difference concerns pain in the upper back or neck, which 47 per cent of women suffer from at least once a week, compared to 29 per cent of men, which might be due to the gendered division of labour. There are no differences between workers depending on age, indicating that older workers are just as well off (or not) as younger ones. This might mean that the health problems are not dependent on age itself, but rather on the frequency of the type of work, for example computer work. Nor are any of the health problems specific to workers focussing on different tasks such as programming or graphic design, or for workers in different positions.



## Tiredness and Recovery

**Figure 38.** Issues of tiredness and recovery among interactive media workers.



The proportion of interactive media workers that have trouble sleeping due to thinking about work is higher than for the Swedish labour force in general. Here, 26 per cent of men and 29 per cent of women report having such problems at least once a week. The equivalent figures for the working population in general, according to the Work environment investigation 2001, are 19 per cent for men and 22 per cent for women (Arbetsmiljöverket and Statistiska Centralbyrån 2001). Thus both women and men engaged in interactive media work report more troubles sleeping than employees in general in Sweden. Given the time of study, this could to some extent be explained by the downturn in the IT related sectors: although the worst crisis had passed, layoffs still occurred when our data were gathered.

Interactive media workers also feel displeasure at work at the start of the working day more often than employees in general. 25 per cent within interactive media feel this at least once a week, as compared to 18 per cent in general who report displeasure ‘when going to work’ (slightly different formulation of the question)<sup>46</sup>. It is more common that male interactive media workers feel this way at least once a week, 27 per cent, as compared to 21 per

<sup>46</sup> In the working population in general reports of displeasure are more common among younger workers, so the fact that interactive media workers are young may be a partial explanation for this difference.

cent of women. This goes against the image of the new economy as playful. Again: more work than play?

53 per cent of interactive media workers report that they ‘feel physically tired after working day’ as compared to 44 per cent of employees in general who feel ‘tired out in the body when coming home from work’ (somewhat different formulations of questions again make strict comparisons difficult). It is more common that interactive media workers feel mentally tired than physically tired, 73 per cent feel mentally tired at least once a week. Thus, although roughly half of interactive media workers feel physically tired, their work seems more mentally than physically demanding.

The most profound differences concerning issues of tiredness and recovery among different groups of interactive media workers can be found between owners/partners and permanent employees. Employees report being more tired and less revived than owners for all five indicators. Differences are particularly extensive concerning displeasure at the start of the working day: 29 per cent of employees feel this at least once a week, as compared to 15 per cent of owners. 31 per cent of employees have had troubles sleeping at least once a week because thoughts about their job have kept them awake, the equivalent figure for owners being 19 per cent. 57 per cent of employees feel physically tired at the end of the working day at least once a week, and 75 per cent feel mentally tired as often. Equivalent figures for owners are 46 and 68 per cent, respectively. Thus even regarding mental tiredness, which might be assumed to be higher for owners due to their ownership and managerial responsibilities, a higher proportion of employees feel this way at least once a week.

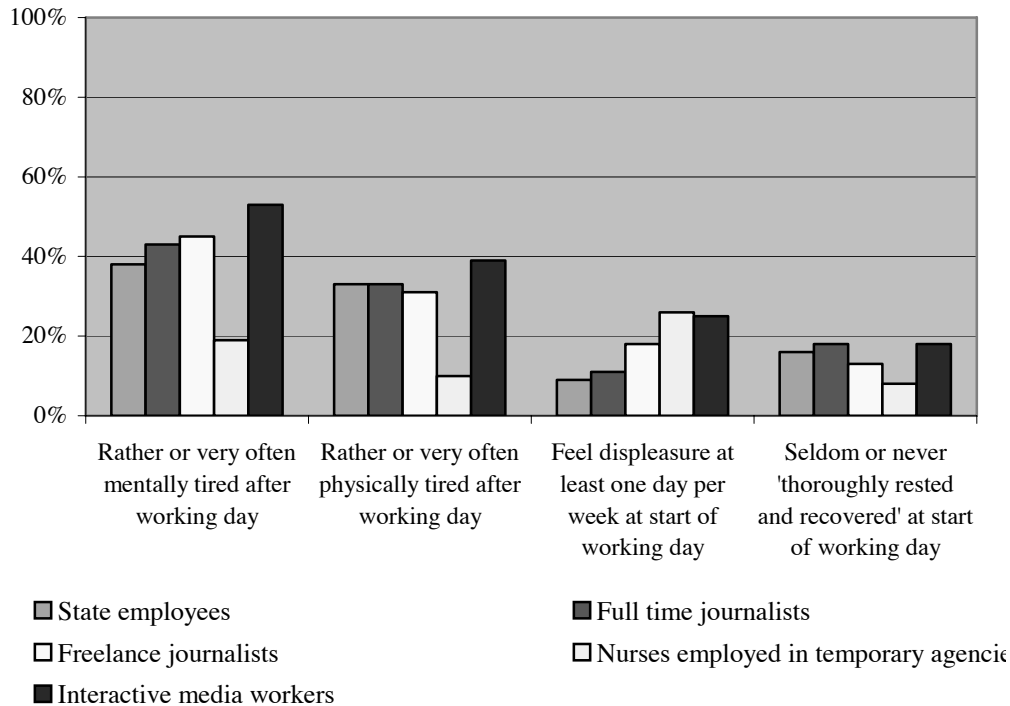
The first four of our above questions have earlier been asked in several studies conducted by the Work and health unit at the NIWL. The four questions were directed to employees within state administration, full time employed journalists, freelance journalists and nurses employed via a temporary staffing agency. The results are summarized in figure 39 below. In a last column we have added our results for the same four questions.<sup>47</sup>

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<sup>47</sup> Both scales have five grades but our response alternatives differ. ‘Seldom or never’ corresponds to our ‘a couple of times per month’ and ‘very seldom or never’. ‘Rather or very often’ corresponds to our ‘every day’ and ‘a couple of days a week’.

**Figure 39.** Comparison of tiredness and recovery among different occupation groups.

Source: Allvin et al 2003 and for interactive media workers authors' survey.

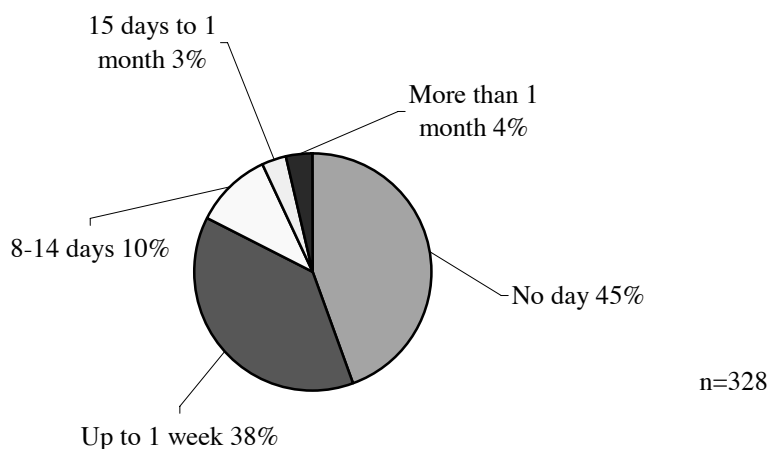


The general impression from the comparisons shown in figure 39 and the previous discussion is that interactive media workers have quite a tough working situation compared to working life in general and some other occupational groups: they have high scores on all four aspects above of tiredness and recovery and the highest for three of them. Interactive media workers feel revived at the start of the working day as infrequently as full time, permanently employed journalists, who feel the least revived among the other groups. They feel displeasure at the start of the working day at the same high level as nurses from a staffing agency. They are clearly more tired than the other groups after the working day, particularly more mentally tired. As argued, this especially concerns interactive media *employees*, although figures for all groups of interactive media workers are high. All four measures are significantly correlated with each other for interactive media workers: if one is not recovered when going to work, and knows that there is a considerable chance than one will be both physically and mentally tired at the end of the working day (which, as has been shown before, often involves some overtime as well), it is understandable that one feels displeasure when the working day starts.<sup>48</sup>

<sup>48</sup> Pearson correlations for all interactive media workers range from 0.252 to 0.524 and Spearman from 0.272 to 0.525, all significant at the 0.01-level. For owners separately, correlations are weaker than for workers in general and not significant between recovery at

## Sickness Absenteeism and Presence

**Figure 40.** Average total number of working days absent due to sickness last year.



The results presented in figure 40 show that although such a high proportion of interactive media workers are often mentally and physically tired, have troubles sleeping and are not recovered when starting their working day, 45 per cent still have not been absent a single day during the last year due to sickness.<sup>49</sup> This is remarkable, especially considering the proportion of workers that also regularly experience different forms of pain (see above) and occasional ‘normal’ sicknesses, e.g. fever, flue, cold, that we have no information on. It is however less remarkable if one considers the importance of work performance on their self-esteem, discussed earlier. Of those who have been absent due to sickness, 69 per cent have stayed at home less than a week due to sickness, 19 per cent 8-14 days, six per cent 15 days to a month and another six per cent longer than that.

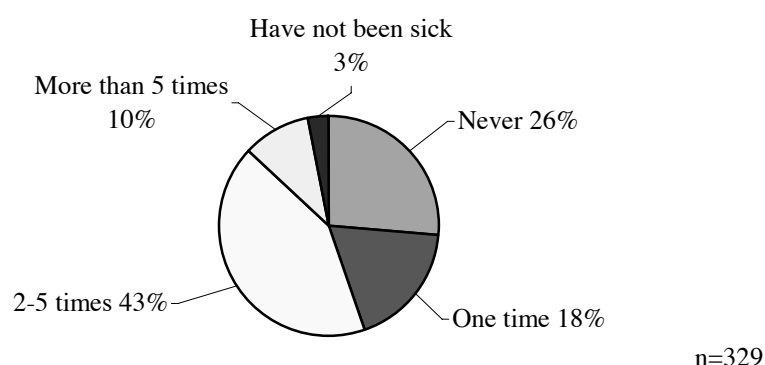
We do not know to what extent workers use their possibilities of regulating their working hours and overtime compensation as a means of staying home or at least working from home when sick without calling in sick. It might be that workers who do use this possibility do not see it as having been absent due to sickness as they have not been reported sick and perhaps done some work from home. Although workers as previously shown spend the vast majority of their working time at the firms’ premises, modern IT solutions do offer the possibility and perhaps demand to work at home while being sick. What we do know is that some workers from time to time go to work although they perceive of themselves as being sick, which is shown next.

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the start of the working day and physical tiredness at the end of it. Correlations for interactive media employees are similar to interactive media workers in general.

<sup>49</sup> This is somewhat less than in the working population at large, and among technical specialists, among whom 51 and 50 per cent respectively have not been absent a single day during the last year, according to Hallsten et al (2002).

**Figure 41.** Average number of times during the last 12 months that interactive media workers have gone into work although they should have called in sick considering their health condition



The fact that nearly half of interactive media workers have not been absent due to sickness a single day during the last year does not necessarily mean they have never been sick. In fact, 60 per cent of those who have never called in sick have gone to work although they probably should have stayed home considering their health condition.<sup>50</sup> During the last twelve months, 53 per cent of all interactive media workers have gone to work at least two times, although they should have called in sick based on their own estimations of their health condition. This is very close to the average among all Swedish employees, 51 per cent (Arbetsmiljöverket and Statistiska Centralbyrån 2001 p. 30). So, the generally accepted idea that interactive media workers are so involved in their work that they put higher pressure on themselves than other groups does not gain support by this indicator.

The differences described earlier in the work related health condition between interactive media owners and employees is also visible concerning sickness absenteeism and sickness. A lower proportion of owners than employees have been absent from work due to sickness during the last twelve months, 41 per cent as compared to 63 per cent of employees. Furthermore, if owners are home sick, it is often for shorter periods of time than employees. One reason for this difference is that fewer owners report having been sick at all, once per cent as compared to seven per cent of employees. It is also more common that employees report that they go to work even though they should have stayed home considering their health condition. 78 per cent of employees have done this and 55 per cent of owners.

<sup>50</sup> Analyses based on the 45 per cent of individuals that have not been sick absent (figure 43).

## 8 Salaries and other Rewards

### Salary Levels

During the hype years of interactive media and other IT and Internet related sectors, there were recurring reports in the media of high salary levels and generous economic rewards for interactive media workers. Stories were told of 20-something kids straight out of school who made 50,000 SEK or more a month and became millionaires (at least on paper) through generous stock-option programmes (Ågerup 2002; Willim 2002). Later reports in the media, during and after the 'dotcom-crisis', told of large pay-cuts, both 'voluntary' and forced, and interactive media workers who had worked for next to no salary in exchange for a share of future profits that were never realised due to the firm's bankruptcy and shutdown. Although there is some truth in these stories, they are all based on a small number of cases and estimations of salary levels and other economic rewards. Apart from the findings based on managers' estimates of employee salaries in firm-level surveys reported in Sandberg and Augustsson (2002) and Augustsson and Sandberg (2004b), we know of no reliable data on average monthly salaries for interactive media workers, either in specialised firms or workers in in-house production.<sup>51</sup>

Our results show that the average monthly salary before tax for all interactive media workers regardless of the number of hours they worked is 25,700 SEK.<sup>52</sup> If only those who are supposed to work 35 hours or more, roughly equivalent to a full time employment, are included, the average monthly salary before tax rises to 26,400 SEK (the median for both being 25,000 SEK).

The results further show that male interactive media workers on average have higher monthly salaries than female workers. If all workers are included regardless of the decided hourly working time, men on average earn 2,500 SEK more than women, or put differently, women earn 90 per cent of the salary of men. If only those who work 35 hours or more are included, the wage gap shrinks to 2,200 SEK a month, meaning that women interactive media workers earn 92 per cent of men's salaries. This is partly explained by women's on average shorter agreed working time (on average two hours less a week than men), as well as the number of hours actually worked during the previous month (on average three and a half hours less than men). These differences between men and women cannot be easily explained by differences in the

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<sup>51</sup> The union Sif has some data on average salaries for their members, some of which belong to the IT-sector. But it is hard to single out interactive media workers from the material. Some web-based trade journals directed to the IT sector have included sections where readers have been able to pose questions about suitable salaries based on their education, experience and working tasks, but that is not as valid as average salaries.

<sup>52</sup> Figures rounded off to even 100 SEKs. 100 SEK is approximately eleven Euros. Average income-tax levels in Sweden are roughly 30 per cent.

distribution of men and women in different positions within firms, since female owners on average earn 2,500 SEK more a month than male managers, whereas female employees earn 2,600 less than male employees (figure 42). Base numbers, especially for female owners, are however very low and should be treated with caution.

**Figure 42.** Comparison of average monthly salary levels before tax in SEK for male and female interactive media owners and employees. Only those working 35 hours or more included.

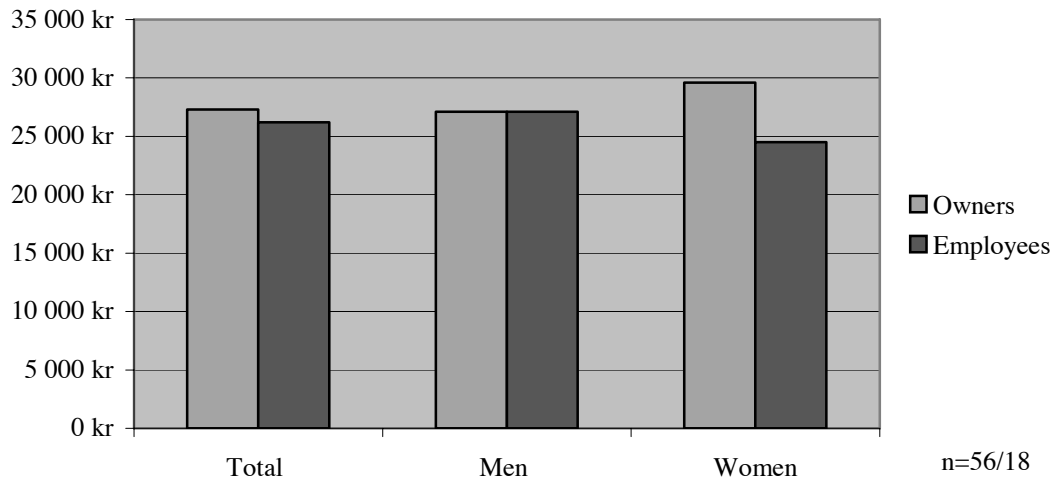


Figure 42 further shows that the differences in average salaries between permanent employees and owners/partners are very low within the interactive media sector. This especially concerns male workers, although base numbers for female workers, again, are low. In general, the difference in salary between owners and their employees is no more than four per cent. A probable reason behind this is that the turnover and profit margins for a large proportion of firms have been very low for the last couple of years and there are often several working co-owners within a firm that have to share the income after employee salaries are paid. As a result, the salaries that working owners are able to take out are on average not much higher than what they pay their employees. Naturally, there may also be other reasons related to future investments or tax planning.

Salary levels are not only dependent on interactive media workers' position, but also on their working tasks. To analyse this, we have correlated the individuals' monthly salary with the extent to which they perform the different interactive media related working tasks within the firm described in figure 6 (only looking at workers with an agreed working time of 35 hours or more a week). The analysis shows that average salary levels are negatively correlated with the extent employees handle IT and programming, and especially graphic design and content production, meaning that the larger proportion of one's time

that is devoted to either of these two working tasks, the lower ones salary probably is. On the other hand, the more one is engaged in personnel, economy and administration, marketing and sales, and business management, the higher ones salary is, on average. This especially concerns business management.<sup>53</sup> The results regarding the relation between average salaries of workers focussing on different working tasks are in line with our previous findings from firm-level surveys, although the economic rewards for handling project management were higher in absolute terms (Augustsson and Sandberg 2004b). Further, it seems that average salaries for interactive media employees have gone up slightly since 2001, from around 24,800 to 26,200 SEK a month, even if differences in measurement are taken into consideration.<sup>54</sup>

An alternative way of comparing salaries that takes differences in working time into consideration rather than limiting analyses to those working 35 hours or more a week is to calculate average economic compensation per time unit, in this case SEK per hour. This has been done looking at both agreed on working time and time actually worked per week during the previous month. A problem with the first way of calculating is that it does not take into consideration the time workers have actually worked (and thereby not if individuals have received economic compensation for any overtime they might have worked). The inherent weakness in the latter way of calculating is that in the questionnaire, we asked for the *average* monthly salary, and not the hours actually worked *the previous month*. Although individual level deviations (i.e. some working considerably less or more than usual the previous month) partially outweigh each other assuming deviations are not systematic (which they might be for certain months of the year), it does introduce weaknesses in the calculations. The calculations show that the average hourly salary for all interactive media workers based on agreed on working hours and actual working hours are as presented in table 3.<sup>55</sup>

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<sup>53</sup> All reported correlations are significant at least at the 0.05-level. Reported Pearson correlations ranging from 0.131 to 0.395. The analysis has been made for all workers and for employees only (in order to hold constant the above reported effects of position, e.g. that owners have somewhat higher salaries). Both analyses show the same pattern, although there is a minor positive effect for those handling project management when all workers are included.

<sup>54</sup> The figure for 2001 is based on managements' estimates of average monthly salaries for employees and weighted according to the number of employees focussing on interactive media within the firm, whereas the figures here are based on employees' own responses. The statistical difference between the two values is significant at the 0.05-level, but the value of this can be questioned given the differences in methods of data collection.

<sup>55</sup> For practical reasons, one month is here considered to be four weeks (i.e. 28 days). This is an underestimate of the length of real calendar months, meaning that the reported hourly salary levels are overestimated. The important point is however the relation between salary levels for different groups.



**Table 4.** Estimates of average hourly salary in SEK based on agreed on weekly working time and average actual weekly working time during the prior month. Figures for all interactive media workers, men and women, and owners and permanent employees, respectively.

	SEK/agreed upon number of hours	n	SEK/hours actually worked prior month	n	actual/ agreed
All workers	168	264	153	305	91
Men	172	176	153	210	89
Women	164	86	157	93	96
Owners/partners	168	58	150	73	89
Permanent employees	170	197	157	214	92

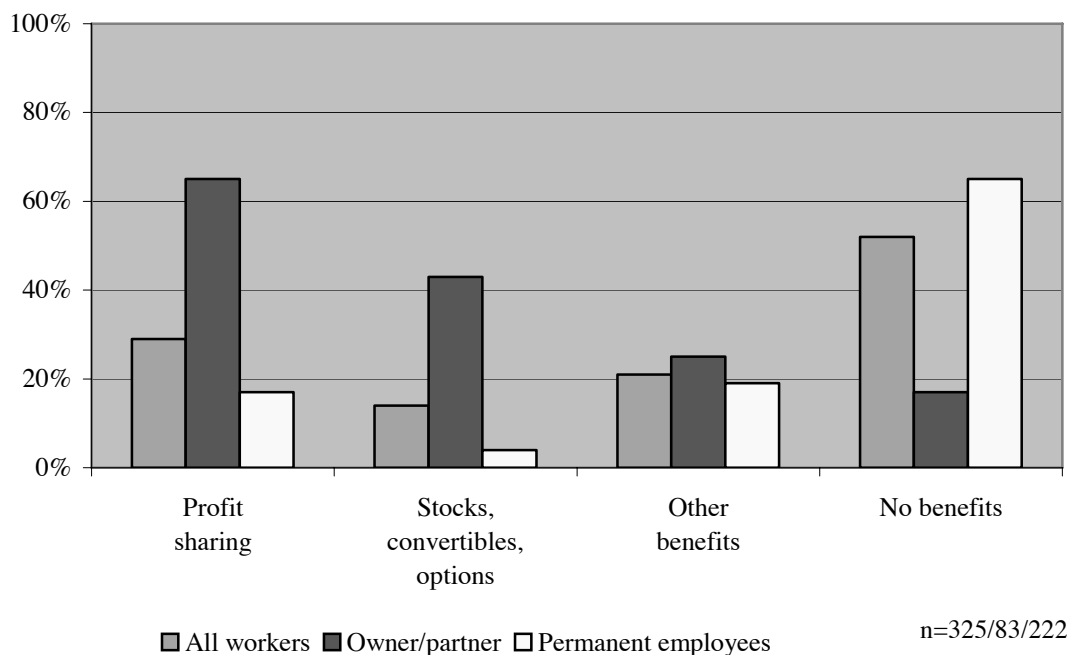
The results in table 4 highlight several interesting points which relate to previously reported findings. First of all, that men on average have higher salaries than women when considering the number of agreed upon working hours, but that the situation is reversed when considering the hours actually worked. Second, the salaries for owners are lower than those for permanent employees, especially when looking at the number of hours that managers actually work (However, owners may have other economic benefits than their salary). Third, the economic rewards for the hours actually worked are considerably lower for all groups of workers than for hours agreed upon. This can be seen in the fifth column, which shows the actual hourly salary as a proportion of the salary based on the agreed working hours per month. In principle, the calculation shows that workers only receive between 89 and 96 per cent of the compensation they should, based on the time they work. Retrospectively, workers should have a wage increase of between four and twelve per cent to compensate for the time they actually worked. The results do however support the unions' argument that employees should be very cautious about signing away their right to overtime compensation, and if they do so make sure that they are given a reasonable economic compensation for this, i.e. for example a monthly salary that is higher than what it would be if compensation for overtime is not included.

Our findings further show that the vast majority, 92 per cent, of interactive media workers have fixed salaries. Based on all employees, i.e. also those that only have a fixed salary, the average proportion of variable salaries is not higher than 2.4 per cent. Among those employees that do have a variable salary, the average proportion of the salary that is variable is 31 per cent and the median ten per cent. The base numbers are very small, however, and conclusions should be made with extreme caution. It is, as expected, more common to find a partially variable salary among working owners than among employees.

## Other Economic Rewards

Salaries are not the only type of economic rewards available to workers. To gain a more complete picture of the compensation that interactive media workers receive, we have also looked at other forms of benefits such as profit sharing, stocks and options (see figure 43). 29 per cent of respondents receive a share of the companies' (possible) profit, 14 per cent have received stocks, convertibles or options at favourable conditions and 21 per cent have some other form of benefit. Still, half of respondents receive no benefits at all. As expected, the extent of benefits is highly correlated to the respondent's position in the company. 65 per cent of owners and partners have profit shares, whereas only 17 per cent of the permanently employed have this benefit. 43 per cent of owners and partners have stocks, convertibles or options, but only four per cent of the permanently employed.

**Figure 43.** Comparison of the occurrence of different benefits between permanent employees and owners/partners.



It thus seems that estimates of large proportions of employees tied to their firms by the 'golden chains' of stock options are highly exaggerated. It should be remembered, though, that these figures concern the situation in 2003; three years after the burst of the stock market based 'dotcom-bubble'. In our 2001 study of interactive media firms, managers in 80 per cent of companies estimated that at least some employees had stock options and in 14 per cent of

<sup>56</sup> The number of freelancers, fixed-term employees and 'others' are too few to make reliable cross tabulations. That is why the number of employees and owners do not add up to the total for all workers.

firms a greater number of, or all, employees had this (Sandberg and Augustsson 2002). The attractiveness of stock options as a means of making employees more committed and loyal to the company they work in has probably all but vanished with the drastic fall in stock market value of many interactive media firms. As argued elsewhere (Augustsson and Sandberg 2004a), promises of competence development have probably partially replaced stock options, as well as profit sharing in this respect. The current labour market situation for interactive media workers must also be taken into consideration. When over 90 per cent of workers would prefer to continue to work with interactive media production and the possibilities of finding a job in another firm are extremely limited, the need for financial benefits besides salaries to induce worker retention are probably minimal. As shown, financial rewards also rank lowest of all factors regarded as important by interactive media workers to be able to perform a good job (figure 33).

## 9. Unions and Agreements

The IT-sector in general, and especially the areas relevant to IT consultants, the Internet and e-business has generally been considered to have a very low proportion of unionised workers (Kjellberg 2001). It has been argued in public debate that unions have had difficulties in understanding the working situation and problems of employees working in these areas and have therefore been unable to attract members. Some have even claimed that traditional forms of union membership and union activities are unsuitable for the new economy, a discussion which has been loosely linked to the idea of the death of the Swedish model due to globalisation and the developments in IT solutions, for example. The flexibility of work organisation and working times, fluidity of employment relations and the movement of workers in and out of firms, projects and short term employments have been thought to create a situation that the traditional union negotiation and bargaining principles, as well as regulations and collective agreements, cannot easily handle. Like much else that has been said about the interactive media sector, these are estimates and predictions with limited empirical foundation. Even though many unions have reported rapid increases in the number of union members, and firms in the IT sector have been signing collective agreements following the crisis, little has been known about the general levels of unionisation and the spread of collective agreements within the interactive media sector.

## Collective Agreements and Safety Representatives

The findings reported here show, apart from other things, that at least 48 per cent of firms producing interactive media have collective agreements and that 53 per cent of all workers are unionised.<sup>57</sup>

By multiplying the number of firms that have a collective agreement with the number of employees working with interactive media within that firm, we find that the proportion of workers covered by a collective agreement is higher, roughly 61 per cent.<sup>58</sup> The reason is that collective agreements are more common in larger firms than in small ones. However, this is still lower than the private sector as a whole where 90 per cent of employees are covered by collective agreements (Kjellberg 2001, p. 309).

According to managers' responses to the firm-level survey, 30 per cent of interactive media firms have a safety representative (*skyddsombud*) and there are local union clubs in 20 per cent of firms. Using the same type of analysis as above, we find that 46 per cent of workers with interactive media related working tasks have a safety representative they can turn to and 34 per cent a local union club.

## Levels of Unionisation

The proportion of interactive media workers that are unionised, 53 per cent, is considerably lower than among the labour force in general, where 80 per cent of employees were unionised in 1999 (Kjellberg 2001), p. 27). If owners and freelancers are excluded, and only permanent and fixed-term employees are included, the level of unionisation within interactive media increases to 63 per cent. This is still lower than the norm for the Swedish labour market. It is however higher than previous estimates for the IT sector at large, but one should remember that later, during and after the crisis years, many workers in the IT sector became union members.

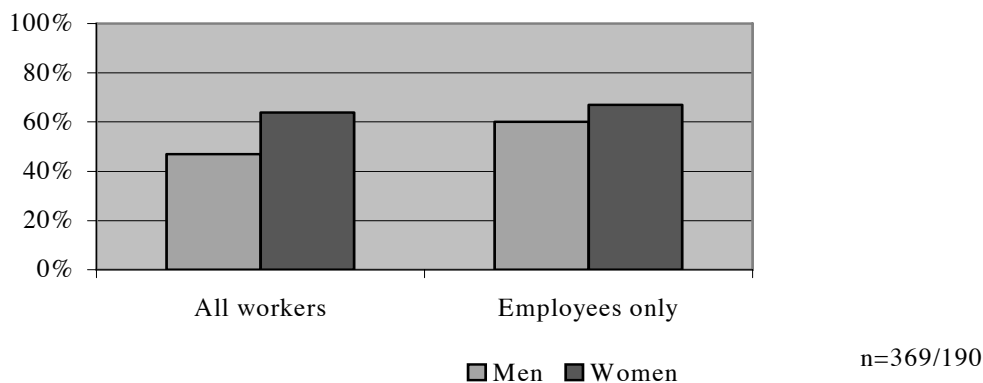
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<sup>57</sup> The individual respondents estimates were that 37 per cent of firms had a collective agreement, 47 per cent lacked such an agreement and 16 per cent did not know. However, since we often have information from several respondents within each firm as well as management's firm-level response, it is possible to cross-check whether a firm is likely to have a collective agreement or not (i.e. delimit the do not know category and inconsistent answers). Doing this, we find that the proportion of firms that probably have a collective agreement is 48 per cent. This is roughly equal to the results from individual level responses when the 'do not know' category is excluded, although there are some changes at the individual level.

<sup>58</sup> This is done by selecting one respondent from each firm and weighting responses based on the number of employees within that firm who are reported to work with interactive media related tasks, and then ascertain the presence of a collective agreement or not. Thereby, differences in response rates to the individual level survey between firms can be controlled (see further previous footnote).

The union membership density differs between men and women; levels of unionisation for all interactive media workers are 47 per cent for men and 64 per cent for women. Looking only at employees, levels of unionisation are 60 per cent among male employees and 67 among women (see figure 44). Both figures are lower than for Swedish private sector employees in general, and the gender differences reversed. For the general working population, men are unionised to a slightly greater extent than women, (Kjellberg 2001, p. 77). The figures for the general labour market are, however, older than those reported here regarding the interactive media sector and the trends are that unionisation among female workers is increasing (or at least not decreasing to the same extent as for men). The higher proportion of women union members coupled with an instrumentalist view of union commitment (Bergström and Karén 2002; Sverke 1995) may be due to women's more careful attitude towards financial risk-taking, which is also visible in e.g. individual wage demands and choice of pension funds (Säve-Söderbergh 2003). Despite a growing proportion of female union members, gender equality is the area where union practical activity and influence, and therefore value for members, is the lowest (Levinsson 2004). In this respect, we have no specific information for the interactive media sector. But in this relatively young sector, unions probably focus on member recruitment, wages, collective agreements and physical work environment.

**Figure 44.** Comparison of levels of unionisation between different groups of workers. Per cent for men and women, for all interactive media workers and employees only, respectively.

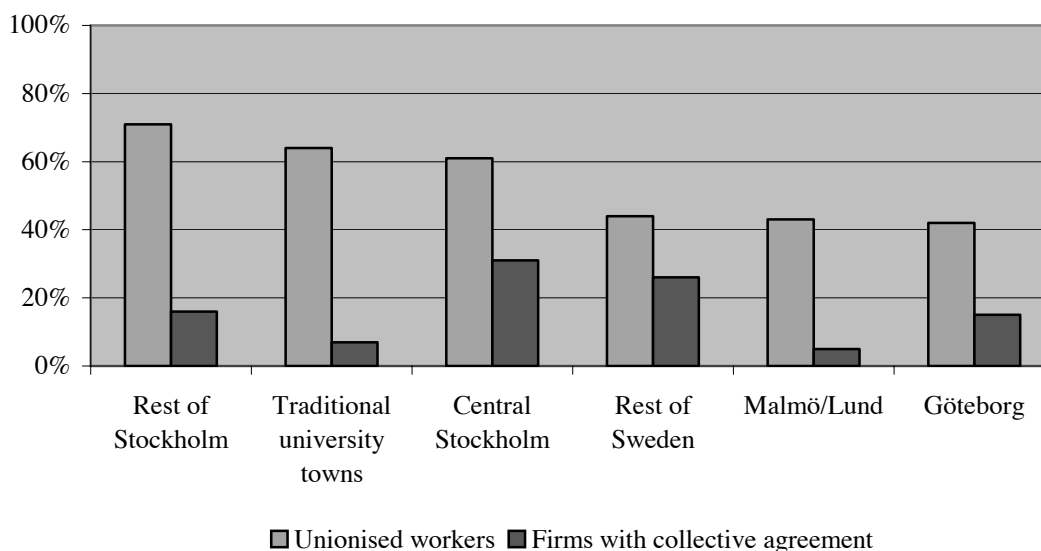


### Regional Differences

In central Stockholm, the greater Stockholm area and some of the traditional university towns, the proportion of unionised workers is somewhat higher than in the rest of the country. Central Stockholm is also the area where the proportion of firms with collective agreements is highest (see figure 45). Given that a considerable proportion of all interactive media in Sweden are found in

the Stockholm area, this means that union influence, or at least presence, is particularly strong in the Stockholm region. Apart from the geographical network effects concerning union density discussed below, this might be because Stockholm is generally regarded as having suffered the hardest consequences of the crisis within the IT-sector.

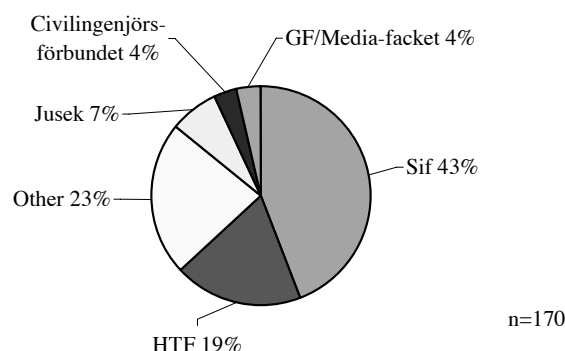
**Figure 45.** Proportion of unionised interactive media workers in each region and proportion of firms that, according to the employees, have collective agreements.



Just as union density differs between men and women in general, it differs between men and women in different regions. Union density for women is higher than for men in most regions except in Göteborg. The greatest differences can be found among interactive media workers in firms located around the central part of Stockholm, where 79 per cent of interactive media working women are unionised compared to only 53 per cent of men.

All respondents who reported they were union members were asked to which union they belong. The figures, presented in figure 46, show that Sif (mainly organising employees within technology and knowledge-based sectors of industry) is by far the largest union among interactive media workers. It has more than double the percentage of members within the sector as the second largest union, HTF (Salaried employees' union), followed by Jusek (an association of graduates in law, business administration, computer science etc.). Those members that marked 'other union' were asked which one this was. Two unions stand out here, Ledarna (the Association for managerial and professional staff) and DIK (an association of graduates in documentation, information and culture), who both held the same percentage as Civilingenjörersförbundet, CF (Association of graduate engineers) and GF/Mediafacket (the Graphic and media workers' union).

**Figure 46.** Distribution of unionised interactive media workers on different unions.



This shows that Sif's offensive strategy of targeting the interactive media and IT sector seems to have been successful and that they have come to be seen as one of the natural alternatives when interactive media workers choose to join a union. In accordance with national figures, regional ones reveal that Sif is the largest union among interactive media workers in both urban areas and in the rest of Sweden. However, Sif is more dominant in urban areas, where half of all unionised interactive media workers are members of Sif, than in the rest of Sweden. The share of membership in the remaining unions differs more or less depending on region. Jusek has, for example, more members in the rest of Sweden than in the urban areas.

There are also network effects, partially dependent on the hierarchical structure of the labour market (i.e. potential union members are usually employed by a firm or another work organisation). The probability of an employee becoming a union member increases to a certain extent with union density among co-workers due to social influence and pressure, but also for rational reasons: the higher the proportion of union members, the bigger influence the union will have on the management, but also on the individual's work situation.<sup>59</sup> The probability that employees will join a particular union also increases if there are co-workers belonging to that union, as well as with the proportion of members of a particular union. This is especially the case if there is a local union club and a collective agreement with that union. There is also a degree of labour movement between firms, both unionised and non-unionised, and this movement is geographically dependent, i.e. it is more likely that workers who change employer will go to another firm that is located nearby

<sup>59</sup> The effect is curve linear and dependent on the individual's likelihood of being influenced by others. Some will join the union even if no other employees within the same firm are union members, whereas the probability is increasingly lower for other employees. Some will never voluntarily join the union (Sverke 1995), perhaps due to ideological reasons or bad experiences.

than far away, especially when firms are clustered as is the case within the interactive media sector (Bäcklund and Sandberg 2002; Sandberg 1999). Labour turnover leads to the further diffusion and strengthening of geographically influenced unionisation patterns and as a result both union density and the relative strength of unions within particular sectors will vary geographically.<sup>60</sup>

### **Professional and Trade Organisations**

Besides unions, there are a few Swedish professional and trade organisations directed at or related to the interactive media sector, such as Promise (Producers of Interactive Media in Sweden), Multimedieföreningen (Swedish Association of Multimedia), now merged with a network around 'Multimedia, e-learning and competence' with DFS (Dataföreningen Sverige, Swedish information Processing Society), Swedish Game Developers and also the broader IT-företagen (the Swedish ICT industry association) . The proportion of interactive media workers that are part of any of these or other organisations is, however, quite small - 15 per cent. The obvious reason is that most of these organisations are focussed on firms and owners, rather than individual employees. Our analyses show that the individuals who are part of professional or trade organisations are largely owners; 25 per cent of them are members as compared to ten per cent of permanent employees.

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<sup>60</sup> For similar discussions on the role of hierarchical networks for geographical diffusion of organisational membership, see e.g. Hedström (1994), Liljeros (2001), Sandell (1998) and Stern (1999).



## Concluding Discussion

Even though there are some differences between the interactive media sector and its workers compared to the general Swedish labour market, the differences seem to be larger in discourse than in reality. There seem to be similarities especially to some sectors with similar types of highly educated and performance oriented workers, generally with small firms and project-based work organisations, that focus on creative development of services and solutions (Alvesson 1995).

### **The Urbanity of Interactive Media**

In prior studies we have shown that the interactive media sector to a large extent is an urban phenomenon with the majority of firms and workers placed in the three major cities of Sweden: Stockholm, Göteborg and Malmö. Given the fact that interactive media work, and workers, does not distinguish itself notably in urban areas compared to the rest of Sweden, it is mainly the geographical location of the sector that makes it an urban phenomenon. To a large extent, interactive media work is what it is no matter where it is located and the people performing it are in most ways very similar (on average, that is). Thus, what makes interactive media production an urban phenomenon with a few local clusters is not that it differs in qualitative terms between the larger cities and the rest of the country, but that it is to a large extent located in major city areas. This might be an example of a future trend, or rather the absence of a change, in the respect that highly qualified and creative kind of jobs that require an highly educated work-pool in a flexible local labour market, close connections to other partner firms, sectors and customers and a cultural climate that can inspire and foster creativity, will to a large extent be placed in larger cities, despite talks of a death of distance and the possibilities of virtual organisations and teleworking aided by e.g. new sophisticated ITT-solutions. Whatever geographical outbound connections there might be between a certain sector, like interactive media production, firmly placed in one of the larger cities are more likely to be with another large city, perhaps in another country or continent, than with the rural parts of the own country. To the extent that there are interactive media firms placed in smaller communities, they are mainly left to supply the local, or perhaps regional market. The bigger firms and clients are placed in the biggest cities, in much the same way as within advertising, architecture (Boström 2001) and photography (Aspers 2001).

## **A Not So Gendered Labour**

The Swedish labour market for interactive media production has a higher proportion of male than female workers. However, female participation in interactive media is not as low as previously thought and considerably higher than in many other sectors, it is more correct to talk of a gender-mixed sector although with a majority of male workers. This does not, of course, mean that there is no gender segregation within the interactive media sector. There is still a much higher proportion of male owners and managers while women perform working tasks such as, for instance, administration. On average women get lower economic rewards for their work than men and they are more likely to have some work related health problems, to mention some of the gender based inequalities. None of this is, however, distinctive for the interactive media sector. In contrary interactive media working life resembles working life in general.

## **A Job for All (Swedes)?**

Compared to persons with an immigrant background, the possibilities for women to get a position within interactive media are rather high though. The proportion of immigrants is remarkably low, especially considering that a large part of the interactive media sector is located in three major cities with a high proportion of immigrants in the labour resource. In many ways, it seems as if the interactive media firms are both socially and geographically distanced from people with another ethnic background than Swedish (or at least Nordic), i.e. those themselves born outside of Sweden or that have parents born outside of Sweden. Hence, these are excluded from working with interactive media production (Darin 2003). The geographical, mental and social, distance from Stockholm's inner city to the suburbs, e.g. from Stureplan to Rinkeby, still seems too long for the Swedish interactive media sector to overcome.

Based on the findings presented in this study, it is hard to speculate in the reasons for this exclusion but just as for women, it is hardly something specific for the interactive media industry (although the processes and extent of exclusion naturally differs between sectors and types of jobs). The exclusion of people with an immigrant background from the interactive media market might be partly caused by a process that initially takes place even before entering the labour market, for instance during the education. The Royal Institute of Technology, KTH, has, for instance, located their department for IT-engineering in Kista, a suburb with both a high degree of ICT firms and inhabitants with an immigrant background. The proportion of students having an immigrant background is however low as compared to their proportion of the population, not to mention as proportion of the local inhabitants. Furthermore, students with an immigrant background are more likely to terminate their

studies before the end of the educational programme than Swedish students are. Even if they do continue, their possibilities of becoming included in the networks of Swedish students, where contacts are made for future business start-ups and job offerings, seem to be small (compare descriptions of startups and projects in e.g. Eckerstein et al 2002; Uvell 1999; Hörnfeldt et al 1999: it is a homosocial environment mostly consisting of Swedish men with a background from technical universities).

### **Workers Divided**

Some of the findings reported here show that there are differences in terms of e.g. health, stress and control between interactive media workers on different positions. The differences are in many ways in line with what has been found for working life in general; a separation between labour and capital, or employees and managers. Although firms in the interactive media sector is in many ways less hierarchical and has a lower degree of division of labour than many traditional (and especially tayloristic or fordist) work organisations, there are still considerable differences between those that own and manage companies, and those that are employees within them.

As compared to e.g. call centre operators, interactive media workers have been considered to have jobs that traditionally have been viewed as beneficial and desirable from a work health perspective. There is a high proportion of group work and possibilities for social contact, the work is meaningful, gives opportunities for learning and is not directly supervised, there are limited physical strains, risks of threats and violence, exposure to toxic materials, repetitive tasks, etc. Still, the proportion of workers that report different work related troubles is higher than for Swedish working life in general and compared to some other types of jobs. Given this, one might ask to what extent interactive media production really is a desirable job from a work health perspective, and if not: how should such a job look like?

### **Managing Devoted Workers**

On some issues of control of their work, interactive media workers score high as compared to the working population in general; the work may be regarded generally and by the group itself as a rather free project work. So why is it so that in several dimensions of health the outcome seems to be quite similar to other groups with jobs that are usually regarded as much more controlled, monotonous etc – researches on call centres e.g. find a somewhat darker but surprisingly similar health picture? Perhaps the explanation lies in the organization of interactive media work in projects with tight deadlines, high own demands, demands expressed during continuous interaction with customers with high expectations, and in sum a constant cognitive pressure. Although a

free job in some respects, in others it may be tightly controlled. Questions of demand and control may have different meaning in different types of jobs (this may be an example of methodological problems when measuring concepts like demand and control). In 'free' jobs, the other side of having control and influence may be high demands, having responsibility to solve problems under tight conditions.

A considerable proportion of interactive media workers put large pressures on themselves but although working long hours (i.e. more often overtime than not), they quite often do not feel satisfied with either the quantity or the quality of what they accomplish. This, in turn, leads to increased risks of burnout, especially given that the quality of work and the possibilities to participate in innovative development projects are seen as some of the most motivational factors in their the job. Work colleagues, who can function as a social support that dampens or even override the negative effects of external demands, might also lead to increased internalised and group based demands and thereby increased risks for burnout: the grouping together of highly competitive, driven and motivated workers is hardly a way to decrease individual ambition, as shown in e.g. sports and science (Gulbrandsen 2000).

With this, we do not want to suggest that work in interactive media production is by its very nature damaging or bad. But having a large proportion of workers who are deeply devoted, interested and involved in what they do and willing to use parts of their free time to work and develop their skills put different demands on management. Their strategy can hardly be the tayloristic one of pushing and controlling people (which has most likely seldom been the case, apart from when working tasks are delimited to the point of being deprived of all motivational content for the workers) (Ackroyd and Thompson 1999; Durkheim 1893/1984; Marx 1867/1990; 1884/1992.) Rather, the role of management might be to present reasonable quantitative and qualitative goals to their employees, making them feel that it is alright to socialise and cooperate with colleagues, take time for learning and make mistakes. A task for the unions might be to influence the management to use such strategies. If the (felt) pressure on workers is too high, management and unions may have to use methods such as banning too much overtime, telling people to simply go home or take (forced) vacation.

Naturally, individuals themselves do have a partial responsibility for taking care of themselves both physically and mentally (von Otter 2003a; 2003b). But managers at all levels have a responsibility since they signal what is acceptable and desirable behaviour. By themselves e.g. not taking vacation, working while sick or working overtime to meet deadlines or (economically or through appreciation) rewarding other workers that do so, managers may signal that vacation, sickness, family responsibilities and regulated working hours are not

factors that should get in the way of delivering on time. Thus one cannot deny that managers have a central role, both in terms of formal authority figures and signallers of acceptable/desired behaviour, as well as cultural values (Alvesson 1995; Alvesson 2003; du Gay et al 1996).

Again, to blame it all on managers is wrong, employees need to take responsibility themselves and have the courage to say 'no' to work (or rather 'yes' to other parts of life). Collective action and norms as well as knowledge is helpful or necessary, so employee representatives and unions have a key role to play in this respect. Given that quite a large proportion of the workers are rather young and with limited working life experience, it might be that some do not know what rights they have to say no to e.g. overtime work.

### **Unionisation for the Digital Age**

Unions seem to play a rather limited role in interactive media workers' possibilities to carry out their work. This is not surprising given that the role of the unions in the interactive media sector has not mainly been one of influencing work organisation or other areas connected to the possibilities of performing a good job. As the interactive media sector is young and many firms lack a tradition of union cooperation, the unions have had to start from the beginning by establishing themselves as legitimate employee representatives and negotiating partners, as well as making sure basic rights and requirements are met, such as written employment contracts.

Taken together, the findings presented regarding unions and agreements show that although the interactive media sector in many ways has a lower degree of unionisation and extent of collective agreements than Swedish working life in general, there is still a considerable union presence, which is higher than many unionised sectors in most foreign countries. It is very likely that the Swedish interactive media sector is (one of) the most unionised one in the world within this field. Other contestants are probably the other Scandinavian countries where general unionisation patterns are similar to Sweden. There are also countries with a historically strong union presence within the traditional media sectors, like the British film and television industry (Blair 2001) and the US film industry.

### **Concluding Remarks**

Findings in this report, like for example the reported differences in levels of unionisation between other Swedish sectors and other countries, as well as most other findings, show the importance of paying attention to the comparisons that are actually made. Related to Swedish working life in general, the interactive media sector is in some respects, such as unionisation, quite different, but there are similarities with other small, urban start-ups in knowledge intensive sectors.

But comparing firms involved in the same activity, i.e. producing interactive media internationally, the Swedish sector would rank as the extreme on the other end of the scale: Swedish interactive media might be part of a globalised economy, but its roots stand quite firm in the Swedish model and even though a larger proportion of interactive media workers and firms have rejected part of the traditions of the Swedish labour market, its institutions still have a strong impact on the functioning and organisation of the sector (Fligstein 2001; Swenson 2002).

This has important implications for the conclusions that can be drawn from analysing the interactive media sector and its workers. The results presented here, although involving some information on the background and future preferences of individual workers, is a snap-shot of those working in a number of firms specialising in producing interactive media solutions for external customers in 2003. In some ways, they depart from what we consider to be the general labour market, although similarities have been shown in several respects.

From this follows several questions that, although we have not tried to empirically show in this report, are vital for the interpretations and implications of what has been presented. As Tilly (1984) and Bourdieu (Bourdieu and Wacquant 1992) have shown, any comparative analysis simultaneously includes time series analysis, or put differently: any comparison of differences in current conditions between alternative groups of workers or sectors cannot avoid including ideas about history, and hence often causality (whether right or wrong). Although this is supposed to be a descriptive report,<sup>61</sup> we have repeatedly commented findings as ‘reasonable’ or ‘as expected’, or offered hypothetical explanations when findings seem puzzling. To think of empirical material as a *tabula rasa* is to deny the decisions and alterations made all the way from deciding that a certain group should be targeted in the first place (and finding out who they are), as well as what to ask them (and how to do it), and what to report.

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<sup>61</sup> In itself a problematic and questionable labelling for a number of philosophical and social science reasons, see e.g. Archer et al 1998; Bhaskar 1998; Bourdieu and Wacquant 1992; Sayer 1992; 2000.

## Design of the Study

This report is based on a survey directed to interactive media workers currently (i.e. 2003) active within a sub-sample of the firms that were part of MITIOR's firm level survey conducted in 2001 (see Sandberg and Augustsson 2002). Each of these firms was asked to participate in a survey directed to their staff containing questions regarding work, health and competence. Contact was also made with the trade association 'Promise' (Producers of Interactive Media in Sweden) in order to include more interactive media firms and workers in the population.

The management of each firm that agreed to conduct a survey of their workers (including themselves) was later also asked to participate in a firm level survey directed to the management with the purpose of updating the data collected in our firm level survey from 2001. The results of the survey to managements will mainly be presented later in separate publications, while this report primarily presents the interactive media workers' answers. The overall study thus has a hierarchical research design, with surveys directed to both employees and the management, however the results from the two surveys are generally not brought together in analyses in the present report.

Among the 348 firms that were part of the firm level survey conducted in 2001, 56 firms agreed to participate in a survey directed to workers in their organisation (both employees and partners and owners working in the firms included). Three of Promise's member firms that were not part of the survey 2001 agreed to participate, meaning a total of 59 firms in the study. The total number of interactive media workers in these 59 firms was at the time of study 476 according to lists of workers compiled and supplied by the management of each organisation. Two firms were later removed from the population as one shut down its operations and another withdrew from participating in the research. Thus, the total number of interactive media workers in the 57 participating firms was then 454.

### **Questionnaire Design**

The individual-level survey to workers has borrowed several parts from well-tested questionnaires used in several studies within e.g. the Department for Work and Health at the NIWL. This especially concerns questions related to work health, stress, demands and control. This not only guarantees high validity and reliability, but also allows comparisons to be made with other parts of working life.

The questions focussed specifically on issues related to interactive media, competence etc. have partially different sources. Some are based directly on our

previous firm-level surveys to managements, and are intended to facilitate hierarchical comparisons. Others are based on international individual level surveys, especially Rosemary Batt et al's study of new media workers in New York City (Batt et al. 2001). We had the opportunity to discuss the design and functionality of the questions used in Batt et al's study when Susan Christopherson, Cornell University, who participated in the New York City study, visited Sweden during the time of our questionnaire construction. This helped improve our own questionnaire design, for which we are most grateful.

The firm level questionnaire directed to the management is more or less identical to the one used in our firm level survey of 2001 (Sandberg and Augustsson 2002), although some minor alterations have been made based on our experiences. It will thus be possible to analyse firm level changes over time for a sub-sample of firms.

### **Population and Sampling**

The organisations included in this study are a sample of those 348 firms that replied to our previous firm-level survey conducted in 2001 (Sandberg and Augustsson 2002). The 348 firms in the 2001 study were a representative sample of the estimated population of roughly 750 to 1000 interactive media producing firms in Sweden in 2001, according to analyses made at the time. The 57 firms that participated in this study of workers do not differ significantly from the firms that responded to the 2001 study according to statistical analyses of significance (t-tests) based on geographical location, size of firm (number of employees), type of business activity, year of establishment and annual turnover<sup>62</sup>. Thus they are a representative sample of the population of Swedish firms that produced interactive media in 2001. From this cannot, however, be concluded that they are a representative sample of the population of firms in late 2002 and early 2003, due to the industrial dynamics (shut-downs and new start-ups, mergers, etc) that has lead to a change in the population over time. The mere fact that the firms were in existence one and a half years after the previous survey implies that they differ to some extent from firms in general in 2002/2003: they have all survived the shake-out in the sector. The economic downturn and the maturing market of interactive media have forced many firms to restructure and downsize their operations and some have even been compelled to shut down their activity. Further, companies started after the 2001 survey (i.e. new entrants) are not included in the sample. On the firm level, this study is then better viewed as a (limited) cohort study than a study of the population of interactive media firms at two different moments in time.

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<sup>62</sup> No significant differences can be found between the firms that answered to the 2001 survey and those included in the present study, neither when including or excluding the three firms provided by Promise (who were not part of the original population).



The individuals included in the study are thus employees, owners and partners working within the 57 firms mentioned. Although the sample of firms in this study is perhaps not representative of the whole population of firms as it appeared in 2002/2003, it cannot be concluded that the individual workers that have replied to the survey are not representative of employees in 2002/2003. If one assumes that the answers given by individuals do not differ depending on which firm they work in, then they are most likely representative of the population of interactive media workers in general. It is, however, likely that there are some differences between individuals' answers depending on the type of firm and their work situation, for instance dependent on the human resources policy of the firm. To what extent workers in our sample are representative of the whole population of interactive media workers is thus hard to determine theoretically, although statistical analyses show that the results are significant according to e.g. age, gender and position<sup>63</sup>.

### **Data Collection**

As reported above, 57 firms with a total of 454 employees participated in our survey. Questionnaires were sent out in the beginning of November 2002 to these employees by postal mail, either to their home address or to their company. In mid-November the management of participating firms were reminded, sometimes repeatedly, by phone and email, and soon after two reminders were sent out to individuals. In January all individual level data were collected and by then a total of 371 individuals had answered the survey.

The survey responses were coded and digitalised by ActionData and later handed over to members of the MITIOR programme who handled the preparation, cleansing and analyses of the data, having the original paper questionnaires as an aid.

### **Results and Response Rate**

A total of 57 firms of the roughly 350 that responded to the previous survey participated in a survey to workers, equivalent to about 16,3 per cent of those firms contacted (minus firms that had seized their operations since 2001).

Within these firms, 371 of the complete list of 454 employees responded to the survey, equivalent to 82 per cent of the population. Since we have access to the list of individuals and the firms they belong to, we have been able to compare the respondents and non-respondents in two respects, gender (based on name) and firm affiliation (as well as firm level specifics, such as size and age).

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<sup>63</sup> This is, however, to some extent only a mathematical effect due to e.g. size of responses (n), the relation between the mean and standard deviation and assumptions of the normal curve (Edling and Hedström 2003).

**Table 5.** Population, sample and replies of interactive media producing firms 2001 and firms and individuals in 2003.

	2001	2003	
	Firms	Firms	Individuals
Population	est. 750-1000	348	est. 3,000
Sample frame	1,564	57	454
Responses	348	53	371

The table shows how the responding firms in the 2001 study in practice functions as the artificially constructed population of firms (and thereby individuals) for both the firm and individual level surveys conducted in 2003. In reality, there is of course a real population of firms that is larger (or ‘above’) 348, but for matters of practicality these were not approached. Out of the 348 firms with a roughly estimated 3000 interactive media workers, 57 firms (with 454 employees) agreed to participate and hence function as the sampling frame for the individual level survey. Of those firms that agreed to participate in the individual level survey, 53 answered the survey that was later directed to the management (i.e. 93 per cent). The responses to the 2003 survey then consist of the 53 firms and 371 individuals that responded to the two different surveys.

### **Descriptive Analyses – An illustration**

In several cases it is a complex task to interpret the reason behind and meaning of differences between subgroups based on firm and individual level factors. Examples of this are collective agreements and union membership (both individual membership and proportion of unionised workers within firms). It is complicated to explain the reasons why workers in firms without collective agreements in general are more satisfied with their working situation (according to various measures) than workers in firms that have such agreements. It might be that the presence of a collective agreement signals a shared awareness of and attention to issues related to work environment and overall working situation. The presence of a collective agreement might further indicate a higher probability of a local union club and a higher proportion of unionised workers. Because of this, it might be the case that workers in firms with collective agreements have higher demands on work environment and overall working situation. It is possible that the objective work situation might in fact be better in firms with collective agreements than in those without it, but because these workers in general have higher demands, they may on average be less satisfied.

Collective agreements are, however, firm-based and although they might signal a higher awareness of work environment issues, the individual worker might not be influenced by this awareness. He or she might not know of the

agreement, might not be a union member or have a positive attitude towards collective agreements or the union. There has been voices in the media not only coming from managers and employers that traditional forms of union membership and activities as well as collective agreements are not suited for the new economy and parts of the IT-sector. It seems as if quite a large proportion of those interactive media workers that became union members during the crisis years did so for instrumental reasons rather than out of ideological ones (Bergström and Karén 2002, compare Sverke 1995). It has been a way to receive unemployment benefits and assistance in case of conflicts in relation to lay-offs, and these are basic and traditional union tasks.

A large proportion of interactive media firms that lack collective agreements have developed other forms of agreements as substitutes that might fill similar functions in terms of creating an awareness of work environment and thereby increase demands. Figures from the 2001 study of interactive media firms show that of the 72 per cent of firms that lacked a collective agreement, 85 per cent had either a standardised agreement or varying individual contracts for employees. Many of these covered aspects such as working time and overtime compensation (Sandberg and Augustsson 2002). It is likely that there is a time-lag effect concerning the effect of both collective agreements and alternative local agreements in raising awareness of and demands for work related issues. Figures for 2001 might therefore be more reliable, despite missing developments that might have occurred since then.

There might also be other factors at the firm and individual level (as well as interaction effects between the two) that can better explain differences in satisfaction with the current working situation than the presence or not of a collective agreement. Collective agreements are, for instance, less common in smaller and younger firms in general where it is also more common with a negative management and employer attitude towards union activity, board representation and cooperation (Levinsson 2004). It might be that a firm's age and size, rather than the existence of collective agreements influences more individuals' satisfaction with their working situation, either directly (i.e. the work situation is better in smaller or younger firms) or indirectly through increased demands (workers in older or larger firms have higher demands on their work situation than those in smaller or younger firms).

Generally, we do not attempt to explain the social mechanisms and structures causing such differences here. We mainly report the observed differences and in some cases offer preliminary hypothesis behind them. Further statistical analyses and theoretical developments, including hierarchical models and tests of hypothesis will hopefully be reported in future publications.

## Summary

Sandberg Å, Augustsson F, Darin K & Maguid G (2004) *Work, Health and Competence among Interactive Media Workers*. Arbetslivsrapport 2005:31, Arbetslivsinstitutet, Stockholm. ISSN 1401 - 2928

This report contains a presentation of results from a survey to workers within firms specialised in producing Internet and multimedia solutions, interactive media. These firms would give knowledge about work in this part of the 'new economy' and, also about tendencies that might perhaps set themselves through in the 'old economy'.

This is our first survey specifically directed to workers within interactive media in Sweden. It was conducted during winter 2002 and spring 2003. The sample of firms is taken from the 348 respondents to our 2001 firm level survey. 57 firms with a total of 454 interactive media workers agreed to participate in the study, and 82 % of those workers responded to the survey.

The report is mainly descriptive. Some comparisons are made between different groups within the firms. In some cases we are able to present comparisons with other groups in working life, as some of the questions have been used in earlier studies. Among the areas covered are age, gender, ethnicity, family situation, workers background, future work preferences and earning possibilities, work tasks, work time, compensation, work life balance, work demands and control, health and absenteeism, salaries and unions.

Some examples of findings: Interactive media is geographically an urban phenomenon, but work itself and workers are quite similar if in small towns or major cities. Interactive media may be regarded as a gender-mixed sector (32 per cent women), but there is gender based segregation: owners and managers are to a high extent men, men are overrepresented in technical and design tasks, women in personnel and administration areas, women salaries are lower on average. Foreign born workers make up a lower proportion within interactive media than in the working population at large. Compared to some other groups interactive media workers seem to have quite a tough work situation, using measures of tiredness and recovery. They have quite a high level of control of their work, but on the other hand their project work means constant pressures from deadlines, demanding customers and not least their pressure on themselves to reach goals they have set themselves. They express a high need for constant competence development in one or more areas.

## Sammanfattning

Sandberg Å, Augustsson F, Darin K & Maguid G (2004) *Work, Health and Competence among Interactive Media Workers*. Arbetslivsrapport 2005:31, Arbetslivsinstitutet, Stockholm. ISSN 1401 - 2928

Rapporten redovisar resultat från en enkät till arbetande i företag specialiserade på produktion inom Internet och multimedia, interaktiva medier. Företagen avsågs ge kunskap om arbete i denna del av 'den nya ekonomin' och också om tendenser som kanske skulle få genomslag även i den 'gamla ekonomin'.

Detta är vår förta enkät till arbetande (ägare och anställda) inom interaktiva medier i Sverige. Den genomfördes under vintern 2002 och våren 2003. Urvalet av företag gjordes bland de 348 som svarade på vår företagsenkät år 2001. 57 företag med totalt 454 arbetande inom interaktiva medier accepterade att medverka i studien och 82 procent av dessa individer besvarade vår enkät.

Rapporten är huvudsakligen beskrivande. Vissa jämförelser görs emellertid mellan olika grupper inom företagen. I vissa fall kan vi även jämföra med andra grupper i arbetslivet. Bland de områden som täcks finns arbetsuppgifter och positioner, ålder, kön, etnicitet, familjesituation, de arbetandes bakgrund, framtida arbetspreferenser och försörjningsmöjligheter, arbetstid, löner, arbetefritidbalans, arbetskrav och kontroll, hälsa, frånvaro, löner och facklig organisering.

Några exempel på empiriska resultat: Interaktiva medier är ett storstadsfenomen i den meningen att stora delar av produktionen är klustrad i större städer, men arbetet självt och de arbetande skiljer sig inte mycket mellan mindre och större städer. Interaktiva medier kan betraktas som en könsblandad sektor (32 procent kvinnor), men det finns en könsbaserad segregering: ägare och ledning är i hög utsträckning män, män är överrepresenterade inom teknik och design, kvinnor inom personal och administration; kvinnors löner är igenomsnitt lägre. Utlandsfödda arbetande utgör en mindre andel inom interaktiva medier, än i arbetskraften som helhet. I jämförelse med en del andra grupper förefaller arbetande inom interaktiva medier ha en ganska hård arbetssituation om man ser till trötthet och återhämtning. De har en reellt hög nivå av kontroll i sitt arbete, med mått från krav-kontrollmodellen, men deras projektarbete innebär å andra sidan konstant press från deadlines, krävande kunder och inte minst deras tryck på sig själva att nå de mål de själva satt upp. De uttrycker ett stort behov av kompetensutveckling inom ett eller flera områden.

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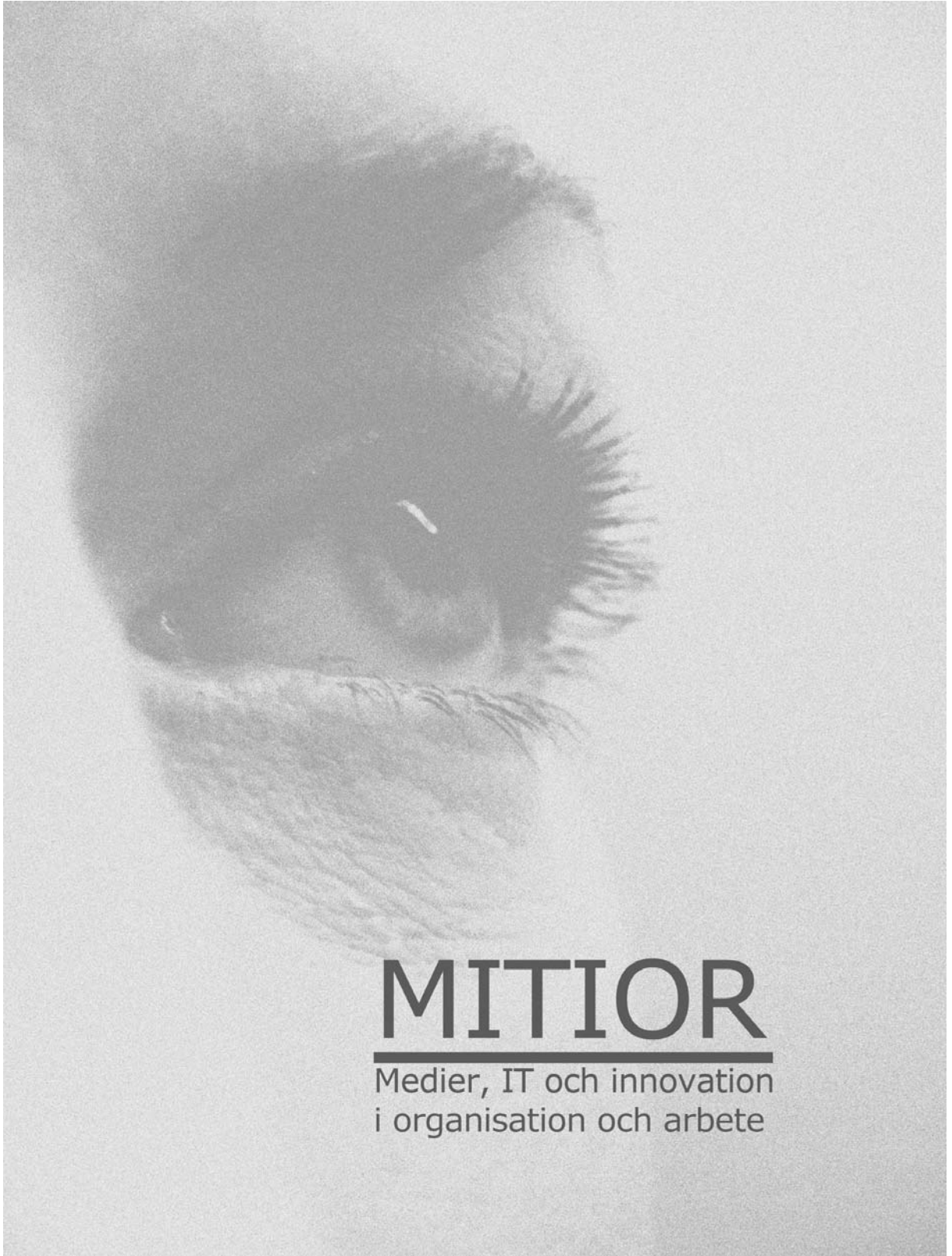


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# MITIOR

Medier, IT och innovation  
i organisation och arbete

# MITIOR

Media, IT and innovation  
in organisation and work

## **The MITIOR programme**

MITIOR is a research programme concerning organisation and work within the IT and media sectors and other activities where IT is central. The programme focuses on the one hand development and design of IT solutions, on the other hand use of these solutions in other sectors. A fundamental question concerns the possibilities of combining good jobs and efficient enterprises. The MITIOR programme is located at the Work and Health department at the National Institute for Working life and at KTH, the Royal Institute of Technology in Stockholm and its Center for user-oriented IT design (CID), part of the department for Numerical Analysis and Computer Science (NADA)

The research team currently consists of professor Åke Sandberg, PhD student Fredrik Augustsson and research assistant Helena Norman. Prior members include investigator Anne Lintala and research assistants Atty Burke, Karin Darin, Tommy Lindkvist, Sanja Magdalenic, Gabriela Maguid and Emma Movitz.

## **Studies within the MITIOR programme**

Projects currently focus interactive media producers in Sweden and IT companies in Kista Science City, that is companies that develop different kinds of IT solutions. We are now beginning to study also companies and jobs with intensive IT use, such as call centres and digital journalism

### **Interactive Media: Internet and multimedia**

Most projects to date have concerned development of companies and jobs within interactive media, i.e. the production of Internet and multimedia solutions. Three comprehensive management surveys have been conducted and reported in (Sandberg 1998, Sandberg and Augustsson 2002, Augustsson and Sandberg 2004), as well as a more limited interview investigation concerning social integration (Darin 2003). The present report is based on a survey directed at individual workers within roughly 60 interactive media producing companies. A third company level survey directed at the management of the 60 companies has been conducted and is not yet published. International exchange and co-operation with researchers within the field is going on, presently in work on a comparative book on interactive media in New York and Stockholm.

### **IT and Telecom Companies in Kista**

A survey to the managements' of IT and telecom companies in Kista was conducted in 2003/2004 and after a public seminar at the IT university in Kista, a preliminary report was revised and a research report published in the beginning of 2005. The report covers

the companies' business, networks, competencies and the strengths and weaknesses of Kista as a place of IT production. An ambition is to carry out later a survey to workers within these companies.

An interview based study of the organisation of knowledge sharing and inter-organisational collaborations between firms has been conducted and workshops are carried out with representatives from Kista companies, academia, economic development agencies and trade unions.

## Digital Journalism and Call Centres

We are following research on call centres at the NIWL and elsewhere. Human resource management, organisation, work and employment conditions are investigated with surveys and case studies in cooperation with the Mid-Sweden University and as part of an international network, the Global Call Center Benchmarking Study.

Case studies of work within digital news journalism and web publishing have been conducted and published. The ambition is continued studies on the theme IT, Internet and professional journalistic work in media companies under changing market conditions.

## Integration and Analysis

Apart from reports from the empirical studies, the researchers perform summaries and analyses in different forms. A fourth reworked edition of the textbook *Ledning för alla?*, about management in 'the new working life' was published by SNS Förlag in the fall of 2003. Articles and book chapters on specific topics and tendencies like employability, organisations' purchase of services and the productive potentials of the 'good work' are written and published in books and journals.

Currently a revised edition of the reader in English is being prepared and will be published during spring 2006.

## Contact and information

Go to project catalogue at [www.ali.se](http://www.ali.se), and search Mitior.

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**MITIOR**

Medier, IT och innovation  
i organisation och arbete



KTH Computer Science  
and Communication



# MITIOR Publications

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