Age, Gender, and Work
Small Information Technology Firms in the New Economy
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Preface and Acknowledgments

This book is about whether and how gender and age structure work and influence workplace cultures within small information technology (IT) firms. This was a central research question in the Workforce Aging in the New Economy (WANE) project, the study from which the data used in this book are drawn.

The book is organized into three parts, which are followed by a concluding chapter. Part 1 provides the context by introducing key concepts used throughout the book, providing an overview of the IT landscape, and detailing the methods used for the WANE project. Part 2 focuses on how gender structures work and influences workplace culture in small IT firms, and Part 3 does the same for age. Finally, a concluding chapter ties the three parts together by summarizing the key findings and commenting on how the chapters have elucidated the relationships between age, gender, and paid work.

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Part 1:
Key Concepts and Methods

The two chapters in Part 1 set the stage for the rest of the book. In the introductory chapter, “Age, Gender, and Work in the New Economy,” the information technology industry is introduced as an example of the new economy but one in which the workers are disproportionately young men. Descriptive data are discussed to locate male, female, older, and younger workers in the small IT firms in our study. Concepts that are central to the book – including workplace culture, life course, and inequality regimes and projects – are discussed and defined. Chapter 1 concludes with a brief overview of the chapters in the rest of the book. Chapter 2 provides more context for the rest of the book by describing the WANE study methodology.
In Canada, as in most other Western countries, there is a lot of talk about new economies and whether individuals are well enough trained for their nations to compete globally in this new, knowledge-based world of work. As it has evolved, the “new economy” concept refers to changes in the way that paid work is conducted, due primarily to advances in information technology, the innovative implementation of these technologies in the workplace, globalization, and the commodification of knowledge (Castells 1996; Ranson 2003). This book contributes to the literature on the new economy by examining work and employment relations in small and mid-sized, highly skilled, information technology (IT) service firms, an industrial sector that may be considered a benchmark case of a new economy industry.\textsuperscript{2}

Globalization, though an elusive concept, is often invoked as a key feature of knowledge economies (Castells 2000). Generally, the globalization of paid work refers to the idea that we are now living and working within a global economy in which national boundaries that once framed production processes have eroded. Linked to other trends – including a rise in flexible work, individualization, and the retrenchment of welfare states (as discussed further in Chapters 5 and 8) – this process has been facilitated through advances in information technologies and transportation systems so that merchandise produced in China, India, and the Philippines is available for purchase in many parts of the world, and service centres for multinational businesses (e.g., IBM) can, in theory, be located anywhere on the globe. There have been extensive debates over whether globalization has been a good thing or a bad thing for individuals and for nations (Ranson 2003). Although some individuals and countries have benefited from globalization, there is little doubt that it has led to increased polarization between nations, individuals, and firms.
that are considered valuable and those that are not (Castells 2000). At the same time, risk has been more widely dispersed, so that individuals and groups that were traditionally sheltered from job insecurity (e.g., men and the middle class) have lost their jobs or been required to work in non-standard employment as a result of globalization (Beck 1999).

The “risk” concept as it is used here and in the subsequent chapters is grounded in the work of Ulrich Beck. According to Beck, we now live in a risk society where the collective patterns of life, progress and controllability, full employment and exploitation of nature that were typical of the first modernity have now been undermined by five interlinked processes: globalization, individualization, gender revolution, underemployment, and global risks (as ecological crisis and the crash of global financial markets). The real theoretical and political challenge of the second modernity is the fact that society must respond to all of these challenges simultaneously. (1999, 2)

In Beck and Willms’s conceptualization (2004, 140), global risks are “systemic, unpredictable, uncertain and infinite.” Unlike the relatively predictable risks in old economies, the risks in new economies are more widespread and unpredictable. Within the realm of paid work, risk is thought to be pervasive in new economies, where work is precarious and unpredictable (Kalleberg, 2009).

The IT industry is an example of an industrial sector where national production boundaries have become increasingly eroded, where firms need to compete globally both for product sales and for skilled, relatively well-paid workers, and where work is thought to be uncertain and unpredictable (Duerden Comeau 2004). Large multinational IT firms such as IBM, Microsoft, and Google dominate the industry, employ hundreds of thousands of workers worldwide, and have been the subjects of extensive research in relation to the organization of work. Yet small and mid-sized IT firms, which make up the majority of IT businesses in many Western countries such as Canada, England, the United States, and Australia, have received little research attention in this regard. Hence, in this book we consider the global character of the IT industry and what it is like to work in small and mid-sized IT firms cross-nationally. To do so, we examine data from a sample of these firms in Canada, Australia, England, and the United States.

It is not only the global character of the IT industry that influences what it is like to work in IT firms but also the fact that, in each of our
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In Australia, 77 percent of highly skilled IT employees are under the age of forty-five, which compares with 72 percent in Canada, about 75 percent in the United States, and 80 percent in the United Kingdom. Men comprise 81 percent of highly skilled IT workers in the United Kingdom, 80 percent in the United States, about 75 percent in Canada, and 78 percent in Australia (Brooke et al. 2004; Craft Morgan, Marshall, and Maloney 2004; de Hoog et al. 2004; Downie et al. 2004; Duerden Comeau 2004). In this book, we consider the implications of the age and gender demographics of the IT industry by asking how age and gender influence the structure of work and employment relations for IT workers in small and mid-sized IT firms.

The WANE Project

In 2002, the Social Sciences and Humanities Research Council of Canada funded our international project entitled Workforce Aging in the New Economy: A Comparative Study of Information Technology Employment (for more details about the project, see www.wane.ca). The broad objective of WANE was to study the intersection of workforce aging and the restructuring of work in the new economy within the IT industrial sector. In particular, we were interested in examining the nature of work within the industry and how employment relations and human resource practices shape and are shaped by the life-course transitions of workers. Indeed, the life-course perspective influenced our project both conceptually and methodologically (see Chapter 2). According to Elder, the life-course perspective guides the identification of research problems and research designs by making “time, context, and process more salient dimensions of theory and analysis” (1995, 104). For the purpose of our book, two of Elder’s life-course principles relating to time and context are particularly relevant: “life-course transitions” (see especially Chapters 4 and 5) and “linked lives” (see especially Chapter 5). Life-course transitions reflect the timing and sequencing of lives and typically involve a change in status. Hence, the school-to-work transition generally happens in early adulthood and involves a change in status from student to employee. The linked-lives concept refers to the idea that such transitions are rarely carried out by individuals in isolation from others. Rather, decisions about life-course transitions are influenced by partners, parents, co-workers, and children (Elder 1995; McMullin and Marshall 2010).

Besides life-course issues, the WANE team was interested in how gender and aging affect the working lives of employees in a typically young,
male profession. To examine these issues, a team of researchers from several countries conducted case study research in small and mid-sized IT firms.

The data for our project come from forty-seven small or medium-sized IT firms dispersed across Australia, Canada, England, and the United States (see Chapter 2 for study design and methodology). Data collection involved face-to-face interviews \((n = 399)\), web-based surveys \((n = 452)\), observation, and human resource policy documentation. Although we do not have a representative sample of IT workers, we do have a unique opportunity to consider gender and age within IT firms of similar size in several countries. More importantly, intensive data provided by multiple members from the same firm allow for a case study analysis that reveals different perspectives on a parallel work experience.

**Small IT Firms in a Big IT World**

Small IT companies around the globe benefited from the period of immense growth and profit in the information and communication technologies sector in the 1990s. Canadian ICT employment over this period increased dramatically, and the number of employees in computer services grew by a staggering 95.9 percent between 1994 and 1999. In the computer services design and related services industry (the subsector of ICT work that this study is about), total Canadian employment reached a high of 193,505 employees in 2001 and took a moderate dip to 182,551 in 2002. Although comparable data are not available in our other study countries, industry experts have pointed to the global character of this business cycle, and its significance was noted by every firm in our study (see Chapter 2 for details).

The crash of NASDAQ (a technology-heavy stock market) and the massive layoffs at IBM, Nortel, and other multinational IT firms made headlines in 2000 and 2001 and resulted in a bust in the IT business cycle felt across the globe. Less publicized were the layoffs of workers in small firms and the fact that many small IT firms did not survive the downturn in the industry. Clearly, job insecurity, industry volatility, and the associated risks of working in the IT field at this time were high. It was timely, then, that the fieldwork for the WANE project began in 2003. Many of our study companies emerged out of the ashes of the layoffs and company closures associated with the IT bust, thus providing us with a unique glimpse at the meaning of risk among employees and owners in these firms.

As noted above, risk, in relation to new economy work, has recently gained a lot of currency in sociology through the work of Ulrich Beck.
and others. But empirical assessments of the risk involved in working in or owning small, new economy-type firms are lacking. Is this risk any different from the risk associated with working in any other small firm? If so, how is it different? How is risk influenced by gender and age? As the chapters in this book show, risk in IT employment is heightened by the requirement to update and maintain skills in an industry where the currency of certain skills changes rapidly. This has implications for how IT employees experience work on the basis of both age (see Chapters 6 and 7) and gender (see Chapters 3 and 4) and for how they negotiate their work and family commitments (see Chapter 5).

**Locating Women and Men in Paid Work**
Workplaces are not gender neutral (Acker 1990, 147). In fact, many workplaces resist accommodations for women and instead require that women fit into a structure of organizational rules and expectations developed around the “worker” who, until recently, has probably been a man and often still is a man in the context of small IT firms. Rothman (1994) points out that, while liberal feminism worked well to defend women’s rights to enter male worlds and to earn equal pay for equal work, it does little to defend women’s rights to be women. Given the risky context of IT work and the male-dominated nature of IT occupations, then, we wanted to know how women were making a place for themselves in small and mid-sized IT firms. Risks for workers in such firms included working in companies that were often surviving month to month, hoping to keep their operations going and sometimes unable to pay workers on time. In this climate, accommodations for employees were minimal or sometimes impossible.

Men made up a higher proportion of the employees in the firms we studied than did women, mirroring the national context of IT work in all of the study countries. In our final sample, men comprised about 71 percent of our interview respondents and 73 percent of our survey respondents (see Chapter 2 for more detail). Not surprisingly, in all the study countries women were much more likely than men to report that their treatment in their current and prior jobs had been unfavourably affected by their sex (15 to 37 percent of women and 0 to 2 percent of men). Thus, not only were these women working in a risky IT field, but they had also faced challenges to working in IT because they were women. Consistent with national data, women in our sample reported lower incomes than men (see also WANE country reports at www.wane.ca). In Canada, this was true despite women’s equal or longer working hours compared with those of the men we surveyed. In all the other
countries, women earned less individual income on average but were also much more likely than men to work fewer hours.

Despite these challenges, women’s reported perceptions of their pay, benefits, and job security were fairly positive. The women we surveyed in Australia stood out because they were more likely to have very positive perceptions of their jobs, pay, benefits, and security compared with surveyed men from Australia, and they were somewhat more likely to say their pay was related to an assessment of their job performance.

In Canada and the United Kingdom, the picture of pay and job security was mixed; job security was perceived to be good for greater proportions of women than men surveyed in both countries. When it came to assessment of pay, however, gender differences were smaller in Canada compared with the United Kingdom. Canadian women and men (as well as Australian men) we surveyed were among the least likely of IT workers in the four countries to agree their pay was good. Their comparative dissatisfaction with their pay makes sense given that only about one-third of Canadian respondents indicated their pay was related to an assessment of their job performance. One of the challenges of working in a risky context is that pay can be affected by many factors, including contracts, project deadlines, and so on. In Canada, risk associated with pay appeared to affect women and men fairly equally. In the United Kingdom, though a slightly greater share of women reported good fringe benefits and job security, men we surveyed were more likely than women to agree their pay was good, despite being less likely than women to say their pay was related to an assessment of their job performance.

Gaining permanent employment and having added responsibilities, such as supervising the work of others, are markers of career progression. Our survey data showed that, in all the regions, women were more likely than men to be permanently employed. Despite achieving permanent status, surveyed women were much less likely than men to supervise others in all the regions except Canada. Working in small to mid-sized companies can be a challenge for those looking for career progression and development.

**Relative Age: Locating Older and Younger Workers in Paid Work**

Just as workplaces are not gender neutral, so too they are not age neutral (McMullin, Duerden Comeau, and Jovic 2007; McMullin and Marshall 2001; McMullin and Shuey 2006; Segrave 2001). There is much complexity, however, in identifying age-based biases in paid work, in part because what is meant by older and younger varies along several dimensions.
We know, for instance, that women are considered older workers at younger ages than are men (Rodeheaver 1992). If a job requires physical strength, co-ordination, or stamina, then workers may be defined as old at relatively young ages. In professional sports, this variation is evident: professional golfers may play on the senior tour when they reach fifty, gymnasts are considered old when they are in their twenties, and professional hockey and baseball players are considered old at thirty-five. Finally, the age at which a worker is considered old probably varies depending on the age structure of the occupational or industrial group. Other things being equal, the age at which a worker is defined as old varies with the proportion of older workers in a particular occupational or industrial group. Hence, medical specialists or judges may not be considered older workers until they are well into their sixties, whereas information technology professionals may be considered old when they are in their early forties.

Our survey data for the IT firms studied show that the majority of workers in all study countries are under the age of forty. Between 25 and 30 percent of the employees in the IT firms are in their forties, between 8 and 15 percent are in their fifties, and only between 1 and 3 percent are in their sixties.

How does the age composition of IT employment influence the age at which workers are considered old and the experiences of older IT employees? In one study of displaced software engineers, Fraser (2001, 136) noted that in the industry “there’s a tremendous fascination with twenty-year-olds. There’s a saying if you’re in your thirties, you’re expendable. If you’re in your forties, you’re unhirable.” Our preliminary work suggests that this depiction is accurate and that workers are considered old at quite young ages, usually by the time they are in their early forties. As the owner of one of our Australian study firms says (see Chapter 6 for further details),

if you’re going to do innovative programs, you have a “use-by” date, and I would suggest that that’s grown considerably to what it was, but I doubt very much whether you’re really going to get people at the cutting edge above forty. And I would suggest that real innovation is going to happen below thirty. (2203003, man, age fifty-six, owner, Australia)

Hence, we paint a picture of the location of “older” and “younger” workers in the IT firms studied using forty as the old age marker but noting that it is somewhat arbitrary.
Our data indicate that in Canada and the United Kingdom younger workers are more likely than older workers to agree that their pay is good, but in Australia and the United States the reverse is true. In all study countries, older workers are more likely than younger workers to agree that they are paid fairly, and with the exception of Canada older workers are more likely than younger workers to agree that their pay is associated with job performance. In all of the study countries, older workers are much more likely than younger workers to believe that they are paid fairly, which is perhaps tied to the fact that younger workers report that they earn less than older workers.

In the United States and the United Kingdom, older workers are less likely than younger workers to agree that their fringe benefits are good, but in Canada and Australia there is no difference in this regard. This may point to similarities and differences across countries in health care delivery, which may weigh more on the minds of older workers than younger workers. With the exception of Australia, older workers are less likely than younger workers to agree that their job security is good.

Again with the exception of Australia, older workers are more likely than younger workers to work more than forty hours per week. As one would expect, in all of the study countries older workers are more likely to supervise others than are younger workers. Workers in the United States and United Kingdom versus those in Canada and Australia are generally more likely to report that they are permanently employed, and older respondents in the United States and United Kingdom versus those in Canada and Australia are more likely to report that they are permanently employed; especially in Canada, older workers are less likely than younger workers to report that they are permanently employed.

Our data also show that younger respondents are more likely than older respondents to believe that youth plays a role in being treated unfavourably at work. This is particularly pronounced in Canada, where over a quarter of younger workers believe they are being treated unfavourably in their current jobs because they are too young and over a quarter also believe they were treated unfavourably in their prior jobs because they were too young. Interestingly, about 10 percent of older workers in all of the study countries reported that they were treated unfavourably in a prior job because they were too young, whereas between 5 and 14 percent of older workers in the study countries reported that they were treated unfavourably in a prior job because they were too old.

In summary, age and gender influence various aspects of IT work. What emerges are complex pictures of the advantages and disadvantages of being a man or a woman, old or young, within a risky and dynamic...
employment setting. Throughout the chapters of this book, we shed light on these complex pictures through in-depth qualitative analyses of IT firms and the individuals within them.

**Gender and Age Relations in Paid Work**

Although the discussion above provides a useful glimpse at the location of men and women and older and younger workers in the IT firms studied, there is more to the story of gender and age in paid work than can be gleaned from this description. Gender and age relations are bases of social inequality that emerge simultaneously as both structural and individual features of social life (McMullin 2010). At a structural level, gender and age relations are characterized by power relations in which certain groups (e.g., women, youth, old people) are excluded from some privileges and opportunities in society while others (e.g., men and the middle aged) are not. At an individual level, people “do gender” (West and Zimmerman 1987) and “do age” in their everyday interactions with others and through these interactions either reconstruct gender and age relations or gradually modify them. Hence, gender relations structure paid work and unpaid work in such a way that there remains a wage gap, a glass ceiling, and an imbalance in the domestic labour performed by women and men. Yet women and men negotiate their paid and unpaid labour within the context of families and firms and in interaction with one another. In this way, they do gender and simultaneously reconstruct and perhaps work to gradually alter the gender structures that reproduce inequality in paid work.

Older and younger adults have lower rates of labour force participation than middle-aged adults, and when they are unemployed they remain so for longer periods of time (Adams and Walsh 2007; McMullin and Berger 2006). Age discrimination and age stereotyping in paid work have been problematic for decades (McMullin and Marshall 2010; Segrave 2001), yet age as a basis of inequality in paid work is rarely taken seriously. Joan Acker, for instance, suggests that, “currently, age seems to be a significant basis for inequality, as are certain physical inabilities. I believe that although these other differences are important, they are not, at this time, as thoroughly embedded in organizing processes as are gender, race, and class” (2006, 445). Unlike Acker, we argue in this book that age is “thoroughly embedded in organizing processes” in paid work.

**Inequality Regimes**

Drawing heavily on the work of Acker (2006, 443), we define “inequality regimes” as loosely interrelated *inequality projects* that result in and
maintain patterned discrepancies in the rewards and privileges that people enjoy. Inequality projects refer to the practices, processes, actions, and meanings that connect social structures with everyday experiences (Acker 2006; Omi and Winant 1994). Gender regimes (see Connell 2002) and age regimes are examples of inequality regimes, and gender and age projects are examples of inequality projects; these projects occur at both the structural level and the interpersonal level. People make assumptions about others on the basis of their gender and age and interact with them accordingly. It is through structural and interactional gender and age projects that gender regimes and age regimes become “common sense” (Omi and Winant 1994), conventional (Giddens 1993), or deep structures (Sewell 1992). In other words, it is through our experiences with gender and age projects that we internalize gender and age classification schema and make assessments about our own gender and age identities and those of others.

In the context of paid work, inequality projects implicate individuals in the production and reproduction of inequality as they construct, reproduce, and gradually transform gender and age relations within firms through their daily interactions. Thus, personal attitudes and identities, which are dynamic and changing, can influence the structure and evolution of organizations such as workplaces. On this ground, then, inequality regimes are not static; rather, they transform over time, in response to interactions among individuals, shifting social and economic circumstances, and as a result of human agency and interaction. The nature of the inequality regimes and the character of gender and age projects enacted by individuals are influenced by and, in turn, influence workplace culture.

Workplace culture is a concept that is used frequently in this book and refers to a shared system of practices, knowledge, traditions, attitudes, and values that workers use to manage and understand their daily interactions. According to Gary Alan Fine (2006, 3), “workplaces have distinct cultures, and more significantly, local cultural themes shape the identity of those who labor on the shopfloor ... From a social-psychological perspective, a single ‘occupation’ may incorporate alternative identities that can be constructed by workers according to their local cultures.” Hence, workplace cultures can vary significantly depending on the specific characteristics of firms and the individuals who do gender and age within them.

Gender Projects and Regimes
In Part 2 of this book, we examine whether and how gender projects and regimes emerge in IT firms. The chapters in this section show that gender
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projects shape the character of IT firms such that the firms emerge as gender regimes. Drawing on R.W. Connell’s concept of gender regimes, Gillian Ranson and Heather Dryburgh show in Chapter 3 how pervasive sex-segregated employment is within our case study firms and how workplaces organize around particular gender regimes. They identify four gender regimes that may classify most of these firms. These gender regimes emerge out of the daily gender projects in which individuals within the firms engage.

The most common is the masculinist gender regime. Firms in this regime employed very few women, especially in highly skilled technical jobs and managerial positions. Their workplace cultures are organized around masculine activities. Recruitment is geared to “fit” within the masculine workplace culture, and where women were employed in managerial or technical roles they conformed to a male ethos of work. The masculinist gender regime stands in contrast to the benignly paternalistic gender regime. This type of gender regime is characterized by little employment of women but with women holding managerial and technical positions. Leadership in these stable, financially secure firms was by older “family men,” and work relationships were collegial and supportive. In benignly maternalistic gender regimes, firms employed or tried to employ more women in supervisory and project management positions than was true in the other firms, and the organization of work and the workplace culture tended to be more feminine and maternal. Finally, only one firm in our study could be described as having a balanced gender regime. In this firm, two of the four partners and six of the ten employees were women, and older, more experienced workers were valued. There was much emphasis placed on work-life balance and workplace flexibility, which benefited both the men and the women in the firm.

Tammy Duerden Comeau and Candace Kemp take this analysis further in Chapter 4 by showing how there are sub-regimes within the masculinist gender regime that create environments that disadvantage women and older workers. For instance, they identify firms that may be characterized by entrepreneurial masculinity, in which workers are expected to be entrepreneurial themselves, work exceptionally long hours, and be highly committed to the firm – clearly a situation that is better suited to younger, single workers, often men. Like the benignly paternalistic firms identified in Chapter 3, firms sometimes take on a traditional familial character in which there is a father figure, and women in the firm work in supportive capacities. This characteristic is often combined with a brotherhood style of masculinity, where the exclusion of women, older workers, and men who just “don’t fit in” is typical. Masculinity takes
on a *craftsman*-like character in yet other firms where value is placed on skill and the rejection of bureaucracy.

In Chapter 5, Ingrid Arnet Connidis and Candace Kemp consider the gender projects at play in the firms studied as women and men enter different life-course stages, especially the transitions to marriage and parenthood. Framed within the idea that individualism is a gender project linked to globalization, Connidis and Kemp show that the firms within the masculinist gender regime value the “unencumbered worker” (Acker 2006, 448). The global rise of individualism and its importance in small IT firms leads to fewer women being employed in small IT firms, a gender project in which opportunities favour men over women.

**Age Projects and Regimes**

In Part 3, our focus turns to the issue of age and how age projects and regimes emerge within the context of IT employment. In Chapter 6, Julie McMullin, Emily Jovic, and Tammy Duerden Comeau explicitly consider the relationship between age and generations of IT workers. They ask whether generational discourse is invoked to create workplace cultures that favour certain ages of workers or generations in other countries as well as Canada (see also McMullin, Duerden Comeau, and Jovic 2007). Results in this chapter show that IT workers mobilize “generational” discourse and draw on notions of “generational affinity” with computing technology (e.g., the fact that people of different ages are immersed to varying degrees in different computing technologies) in explaining the youthful profile of IT workers and employees’ differing levels of technological expertise.

Julie McMullin and Tammy Duerden Comeau consider age relations and ageism more explicitly in Chapter 7. Computing technology, and the ability of older workers to adapt to it, have comprised a significant component of ageist assumptions. Research has shown that older workers are generally characterized as less technologically adept and less interested in new technologies. In spite of the pervasive nature of these stereotypes, little research has examined whether and how these stereotypes manifest in high-skill computing work and whether discriminatory practices based on age are evident in the field. The chapter shows that ageist attitudes and negative stereotypes about older workers’ abilities to adapt to and train on new technologies influence hiring practices. It also shows that workers who would be considered young in other industries (those in their thirties) are often considered old in this industry. Assumptions about older workers’ abilities reinforce and legitimate discriminatory hiring practices, thereby leaving older
workers highly vulnerable to unemployment and redundancy in the IT industry.

Finally, in Chapter 8, Emily Jovic and Julie McMullin draw on the results of the preceding chapters to conclude that small and mid-sized IT companies produce and reproduce gender- and age-based inequalities. Exemplary workers within this industry are young men who not only are unencumbered but also are seen as naturally better able to do the work required of IT professionals. The importance of “fitting in” in the workplace cultures of these firms heightens the extent to which the exemplary worker is idealized. Although this will not come as news to scholars in the field of gender studies, the fact that age is implicated in these processes of exclusion, and the fact that age and gender intersect in this regard, suggest that more attention must be paid to relative age as a basis of inequality in paid work.

Notes
1 Most of the firms in our study were small, employing between four and twenty people. All employed fewer than 250 people, thus corresponding to the widely held definition of small and mid-sized enterprises (SMEs) (European Commission 2005).
2 Because we were interested in highly skilled knowledge work that is characteristic of new economy employment, our primary focus is on the service subsector of IT firms that is involved with consulting and the development of software and computer systems (Duerden Comeau 2003, 1). Employment in software and computer services constitutes close to half of information and communication technologies (ICT) employment in Canada (Industry Canada 2006).
3 Our focus is on one industry within IT or ICT services: namely, the computer design and related services industry. In Industry Canada data, total ICT services typically include software publishers, telecommunications services, cable and other program distributors, Internet service providers, data processing, hosting and related services, and often ICT wholesaling. Where possible here, we use the term “IT,” reflecting our interest in the computer design sector (NAICS 54151) of ICT services.
4 The way that firms made use of contractors varied across the study sample; decisions about whether they should be considered as employees of individual firms, and therefore included in the sample, may also have varied across the study countries.

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