De-skilling Effects on Journalists: ICTs and the Labour Process of Taiwanese Newspaper Reporters

Chang-de Liu
National Chung Cheng University, Taiwan

Abstract: Through in-depth interviews with Taiwanese newspaper workers, this paper illustrates the “de-skilling” effects of information and communication technologies (ICTs) on journalists. In recent years, Taiwanese reporters have experienced an increase in workload and an intensification of managerial control due to the introduction of new technologies in the newsroom. Using ICTs in the workplace consequently has harmed journalists’ working conditions and autonomy. Moreover, ICTs have led to a trivialization of reporting tasks and devaluation of reporters’ experience and knowledge. The degradation of reporting work resulting from the use of ICTs has enabled managers at Taiwanese newspapers to hire young employees to fill the jobs of experienced reporters and to reduce salary costs.

Résumé : En se fondant sur des entretiens en profondeur menés avec les employés de quotidiens tainarais, cet article illustre la déqualification de journalistes causée par les technologies de communication et de l’information (TCIs). Depuis quelques années, les reporters tainarais ont subi une augmentation de leur charge de travail et du contrôle administratif exercé sur eux à la suite de l’introduction de nouvelles technologies dans les salles de nouvelles. Ainsi, les TCIs au travail ont porté atteinte aux conditions de travail et à l’autonomie des journalistes. En outre, les TCIs ont banalisé les tâches des reporters et ont dévalué leur expérience et leur savoir. La dégradation du travail journalistique résultant de l’introduction des TCIs a permis aux dirigeants des quotidiens taiwanais d’engager de jeunes employés à la place de reporters expérimentés et de réduire les salaires.

Keywords: De-skilling; Labour process; Journalists; Taiwan

Media workers have experienced dramatic changes of production processes and working conditions in recent years due to the introduction of information and communication technologies (ICTs).1 Most previous studies have emphasized the empowerment function of ICTs on white-collar workers in the newsroom, and the issue of the negative impact of ICTs on journalists has received relatively little

Chang-de Liu is Assistant Professor of Communication at National Chung-Cheng University, Min-Hsiung, Chia-Yi, Taiwan. E-mail: telcdl@ccu.edu.tw.

©2006 Canadian Journal of Communication Corporation

695
attention. Even though digital technologies do have some positive effects on journalists, this paper concentrates on examining, from a labour perspective, how ICTs have influenced labour processes in the newspaper industry and working conditions of Taiwanese newspapers reporters. By doing so, this paper provides an analysis of a different aspect of ICTs’ impact on journalists.

The project that formed the basis of this paper used an open-ended and semi-structured interview technique. The interview results offer primary information about respondents’ long-term experiences in the workplace. Twenty-four newspaper reporters, of whom seven were working with or had working experience with online newspapers, were interviewed in person between October and December 2003. Interviewees were informed that the results would be anonymous. In addition to these interviews, this study critically reviews related stories and articles from three media-union newsletters—the China Times Union's *Worker's Voice*, the United Daily News Union's *UDN Worker Monthly*, and *Newsletters of the National Federation of Mass Media Trade Unions*—and a bimonthly magazine, *Media Watch*, published by the Taiwanese Journalists Association.

**De-skilling: Technologies and the labour process**

The rapid development of ICTs has re-shaped the structure of the workplace, transformed required skills and tasks for workers, and changed labour–employer relations. The prevailing view is inclined to emphasize the positive consequences of new technologies on workers. First, the optimists argue that ICTs have increased the total number of employees because the growth of new jobs in the service sector exceeds the losses of traditional jobs in the manufacturing sector (Campbell, 2001; Soete, 2001). Second, they are also convinced that “skill-biased” technological change has fostered an increasing demand for more highly skilled workers, and therefore workers have to keep learning new skills along with the development of technologies in the workplace (Block, 1990; Bresnahan, Brynjolfsson, & Hitt, 2002). Nevertheless, these optimistic arguments overlook the dark side of the effects of new technologies on workers. Some empirical studies reveal that when other independent variables are controlled, new technologies diminish job opportunities for workers (Castells, 1996). In addition, the introduction of ICTs has eliminated job opportunities for “wrongly skilled” workers, rather than “low skilled” ones. Among the jobs created in ICT sectors, many are actually low-skilled tasks in the lower end, rather than the highly skilled jobs that optimists claim (Organization for Economic Co-operation and Development, 2002). Because of these deficits in the optimist viewpoint, this paper applies labour process theory, which is based on Marx and Braverman, to examine the negative impact of ICTs on journalists.

According to Marx (1965), the major approach taken by capitalists to enlarge surplus value is to increase the “relative surplus value” by introducing machines and intensifying the labour process, because many governments have set legal limitations on the prolongation of workdays, preventing management from increasing the “absolute surplus value.” Therefore, diverse new technologies have been continually introduced into the workplace since the Industrial Revolution.
Capitalists have increased the productivity of employees by asking individual workers to operate more machines. Moreover, new technologies that demand fewer skills and less physical strength enable management to hire “supplementary labour-power” or the “industrial reserve army,” including women, children, and unskilled workers. Because the average salary of these workers is lower than that of male adults and skilled workers, capitalists have reduced their salary costs by using new technologies.

Following Marx’s arguments, Braverman (1974) points out that the introduction of new technologies in the workplace has reinforced the separation of conception and execution in the labour process, which allows management to take over the conception element of the labour process and completely control the process of production. After the reconstruction of the process of production by new technologies, many jobs have been trivialized into merely physical activities and thus demand only unskilled or semi-skilled workers. This consequence is called “de-skilling,” or “the degradation or work,” and it has two facets. On the one hand, the average level of workers’ skills in the twentieth century is lower than that of their counterparts in the nineteenth century. On the other hand, workers have lost the “mastery of the conceptual aspect” of their work, referring to craft workers’ core knowledge and skills in pre-industrial production. In craft production, a worker’s skills are tied to both the conception and execution elements; by contrast, in the capitalist mode of production, a worker’s skills have become mindless physical activities.

De-skilling, for Braverman, is not limited to blue-collar or low-skilled workers, but also affects white-collar or so-called “high-skilled” employees. As a subset of the working class, white-collar workers, especially low-level employees such as typists and bookkeepers, also have to face the challenge of the de-skilling effects of new technologies. Scientific management and the introduction of new technologies have constantly removed white-collar workers from the conception stage of production. Therefore, the status of most white-collar workers has become as low as that of blue-collar workers, in terms of working conditions and income levels. Computerized automation has also increased pressure on white-collar workers by trivializing, fragmenting, and standardizing office jobs. For instance, while the introduction of ICTs in banking has increased high-level managers’ power of central control, these computer technologies, including databases and automatic teller machines, have replaced many middle-level managers and lower-level tellers (Meiksins, 1998).

Braverman’s argument, the degradation of work resulting from the introduction of new technologies, has met some criticism, especially when it is applied to the situation of white-collar workers or professional employees. A few critics argue that the major contribution of ICTs is to create new job opportunities for advanced-skilled workers, such as computer programmers and system operators, and view de-skilling as solely a side effect. For example, the use of computer numerical control has resulted in an improvement of the status of operators and programmers and an increase in their income. As a consequence, these researchers
claim that the impact of ICTs on workers is one of re-skilling rather than de-skilling (Wilson, 1988). Nevertheless, the required skills in the workplace have changed constantly based on the interests of capitalists. In this so-called “re-skilling” process, the separation of conception and execution of work still plays an important role. For instance, new jobs created by the use of ICTs, such as computer programming, could be regarded as embodying an advanced stage of the separation of “brain” and “hand” in the labour process, because these jobs involve increased managerial control over the work process as well as further re-organization and fragmentation of workers’ tasks (Armstrong, 1988).

The other thread of criticism states that Braverman’s theory ignores the resistance of workers and workplace politics. Burawoy (1979) argues that the essential characteristic of the labour process in the capitalist mode of production is “the simultaneously obscuring and securing of surplus value” (p. 30). Although the separation of conception and execution of work highlighted by Braverman is a fundamental method of obscuring the surplus value, Burawoy contends that securing the surplus value is most important for capitalists. For Burawoy, the most crucial and effective means of securing surplus value is through the worker’s free compliance rather than the capitalist’s coercion. He applies a neo-Marxist approach, which references related theories about hegemony and ideology by Gramsci, Poulantzas, and Althusser, to explain how and why workers are willing to cooperate with management. Following this argument, Burawoy underscores the importance of political and ideological aspects in analysis of the labour process: “Any work context involves an economic dimension (production of things), a political dimension (production of social relations), and an ideological dimension (production of an experience of those relations). These three dimensions are inseparable” (Burawoy, 1985, p. 39).

Indeed, Burawoy’s analysis is a remedy for deficiencies in the de-skilling thesis in that Braverman’s theory does not account for the influences of politics and ideology in the workplace. By accounting for these, Burawoy has improved labour process theory by shifting “from a focus on the point of production to a more satisfactory political economy of the labour process” (Littler, 1990, p. 87). Following his approach, many researchers emphasize political aspects in the labour process. For instance, in an analysis of the relationship between technological development and changes in the newspaper workplaces in the U.K., the U.S., and Australia, Marjoribanks (2000) stresses that employers and managers still need to cooperate with labour unions and governments in the process of introducing new technologies into the workplace.

New technologies and journalists
As an information- and technology-oriented industry, the media industry has been changed constantly by the development of new technologies. Clear negative impacts were first observed in the back shops of the printing industry. Alongside the development of printing technologies, the introduction of computers in the early 1960s undermined the status of linotype-setters, because the automatic editing functions of computers substituted for these workers’ mental skills,
including word hyphenation and line justification. Then, in the mid-1960s, the introduction of photo-typesetting machines and video display terminals into the newsroom completely replaced typists in the composing room (Zimbalist, 1979).

Similarly, the introduction of new technologies in the early twentieth century has re-shaped the labour process in the newsroom. Under deadline pressure, the newsroom was re-organized into an assembly line for the sake of efficiency, which represented the separation of conception and execution in journalistic work. Journalists became “news gatherers rather than news writers,” because the use of telephones brought the birth of “rewrite men,” who sat in the office re-writing the information delivered by reporters by phone (Salcetti, 1995, p. 52). The development of computerized automation has further restructured the labour process of journalists since the mid-1980s. One issue attracting much attention is the way computers and “pagination”—a computerized process that enables editors to produce complete pages—have dramatically reconstructed editing work. Following the introduction of computers, the status of some editors has been improved to a certain degree, because of a shift in control of the production process from the shop floor to the editorial floor. But the advantages of pagination did not extend to all workers in the newsroom. Due to the layoffs in the composing room, subeditors have had to assume many of the jobs previously handled by workers on the shop floor (Noon, 1993). Russial (1989) also found that the introduction of pagination in American newspapers has resulted in an increase in workload for editors. Many tasks that were previously covered by compositors and other staff in the back shop have been placed on editors’ shoulders; thus, the workload of each editor has increased and the amount of time editors spend on individual tasks has decreased. Moreover, pagination has altered editing work, formerly a highly professional job, into a more routine or trivial task, most notably in the case of electronic paste-up. Russial emphasizes this process of “deprofessionalization,” which represents re-skilling for editors, rather than de-skilling—which to him means “expropriating” editors’ skills. This conclusion is arguable; as McKercher (2000) comments, “It remains to be seen whether the reskilling he captured in his snapshot of a particular technology at its early stage of implementation will turn out to be permanent, temporary or illusory” (p. 67).

Compared with the printers in the back shop and the copyeditors in the newsroom, reporters have attracted far less attention in terms of academic analysis. In the mid-1980s, new communication technologies created a new type of media, the “videotex,” which provided instant news services to subscribers through telecommunication devices. Reporters at these videotex organizations, such as Dow Jones News/Retrieval, Times Mirror Gateway, and Knight Ridder’s Viewtron, complained that their jobs were “mechanical” work that “anyone can do” and felt that “they had moved away from ‘real’ journalism” (Bozanich, Eckstrom, Pinchas, & Savage, 1985, p. 17). These complaints could be seen as a typical response of workers who have experienced de-skilling effects from the introduction of new technologies. A theoretical analysis of the technologies’ impact on reporters is provided by Im (1997). Revisiting journalism history based on Marx’s notion of
the labour process, Im argues that the development of objectivism as a journalistic standard, which is seen as a part of technology in terms of his broad definition, has transformed reporters “from the role of social critic, interpreter and contemporary historian to a species of technical writer” (cf. McKercher, 2000, p.67). Thus, reporters lose control over the goals and values of their products, a change similar to the de-skilling effects on craftsmen, who lose control over the production process.

More recently, some surveys have attempted to explore the impact of ICTs on journalists in the 1990s, but most of them only describe, rather than critically or theoretically analyze, the situation journalists have encountered. Major findings of these studies have concentrated mainly on three categories. First, the computer-related skill bias that the use of ICTs demands has rapidly re-shaped the traditional skills of journalists. Skills in using presentation technologies, such as pagination programs, photo-imaging programs, and Web-editing programs, have become a significant requisite for employment in news organizations (Lowery & Becker, 2001). Photojournalists have also re-defined their roles and responsibilities by moving out of the darkroom and into the newsroom since the introduction in the late 1980s of digital technologies, including digital cameras, image process programs, and digital image transmitters. Instead of the traditional darkroom skills, skills and knowledge related to use of digital cameras and computers have become management’s fundamental standards in hiring and evaluating photojournalists (Becker, 1991; Russial & Wanta, 1998).

For reporters as well, ICTs have significantly affected the required skills in the workplace. The convergence of different types of media resulting from the development of digital technologies has required a few journalists to be “multi-skilled” in order to meet the needs of different outlets. For example, radio reporters must use several database-driven content management systems to produce news scripts ready for air and audio ready for transmission. Prior to the use of digital technologies, these post-production tasks were handled by studio managers, whose jobs were eliminated by ICTs. As a consequence, journalists are unable to focus on interviewing and reporting because they are also forced to handle these technical tasks. One journalist explains,

Employers have used the new technologies in broadcasting to achieve “multi-skilling” of journalists, making them carry out technical production work on top of their editorial work. The majority have acquired these new skills, but most would say technical and editorial standards have dropped because they are not specialists. I’ve often heard reporters say that they’re too busy filing to meet all the requests from the different outlets that they don’t have time to find out what the story is, or keep track of developments—i.e., actually do the reporting job. (International Labour Organization, 2000, p. 15)

Similarly, journalists who work at online news organizations also have to spend a great deal of time with technical preparation in the newsroom rather than news gathering and interviewing outside their offices (Deuze & Paulussen, 2002).

The second category of the findings is related to ICTs’ impact on the pressure of journalistic work. On the one hand, as a result of the ever-increasing speed of computer technology, the Internet’s capacity for immediate communication is a
great help to journalists, who always work under deadline pressure, in gathering news quickly. Press releases transmitted from sources via the Internet have saved considerable transportation time for journalists. On the other hand, managers have put more pressure and a heavier workload on journalists’ shoulders because they assume that the Internet has enabled journalists to finish their work much faster than before. The increase in pressure has blurred the boundary between journalists’ work and leisure time, and thus damaged their working conditions (International Labour Organization, 2000). Furthermore, while abundant information on the World Wide Web provides reporters with a new source of news stories, this incredible amount of information has resulted in information overload for journalists (Garrison, 2000).

Finally, the third category that recent studies have focused on is the change in employment opportunities resulting from the emergence of digital technologies. The majority of observations emphasize the positive impact of ICTs on the employment of journalists. In Europe, the number of employees in the multimedia and audiovisual industry increased approximately 35% between 1986 and 1995 (International Labour Organization, 1997). However, the introduction of ICTs has at the same time created some negative consequences for the employment opportunities of journalists. New online media sources have created a certain number of job opportunities for journalists, but at the same time ICTs have eliminated many jobs in the traditional media. More and more freelance workers, equipped with ICT devices, have replaced permanent jobs in the newsroom. Because freelancers are inclined to bargain with employers individually, media unions have been further weakened by management’s outsourcing and subcontracting strategy. By weakening unionism and altering labour–employment relations, the use of ICTs has enabled management to undermine unions’ capability to protect media workers’ economic rights (Samaddar, 1995).

New technologies and workers in the Taiwanese newspaper industry

Due to competition from new media, such as cable TV and the Internet, Taiwanese newspapers in recent years have encountered a rapid decline in terms of advertising income. Four major newspapers—The China Times, The United Daily News, The Liberty Times, and The Apple Daily—have monopolized the Taiwanese newspaper market, as many small competitors have been forced to close under financial pressure (Lu, 2005). The market structure of the Taiwanese online newspaper industry is very similar to its counterpart in the “real world.” In fact, two of the three major online newspapers, ChinaTimes.com and UDN.com, are online versions of two of the major print newspapers.

Since the late 1980s, there has been an increasing tendency toward “computerized automation” in the Taiwanese newspaper industry. Computers were introduced to reporters’ news gathering and writing process in the early 1990s. By the late 1990s, almost all newspaper reporters had to type their reports on computers. Cellular phones and laptops, the devices for a “mobile office,” have become necessary equipment for Taiwanese reporters in the workplace. Reporters have also been using the Internet since the mid-1990s to search for information online and
to file copy to the editorial desk when they are away from the newsroom (Wang, 2001). The Internet has not only changed the way journalists gather data and file copy, but has also reconstructed the form of newspapers, resulting in the online newspaper, which can be seen as an extension or digital version of the traditional newspaper.

Several factors have been associated with the increasing prevalence of ICTs among Taiwanese reporters, such as the relatively high penetration rate for ICTs in Taiwan. One of the important factors relates to workplace politics. The Taiwanese government suppressed the labour movement until the democratization that occurred during the 1990s (Huang, 2002). Therefore, the development of media unions was stalled for a long time; by 2002, among more than forty active news media outlets, there were only twelve media unions (National Federation of Mass Media Trade Unions, 2002). Moreover, journalists are reluctant to join or participate in the labour movement. It is hard to know the exact percentage of unionized journalists due to the lack of official statistics. However, a survey conducted in 2002 implied that less than 30% of interviewed reporters were union members (Chang, Kuang, Liu, & Tsai, 2003). Another sample statistic is that journalists constituted only 11.62% of the total members in the China Times Union (National Federation of Mass Media Trade Unions, 2002). Because of Chinese tradition, the journalist is usually seen as an intellectual who is expected to sacrifice individual rights to enhance the common wealth of the community and the society (Lu & Pan, 2002). Identifying themselves as intellectuals or professionals rather than workers has been the major obstacle hindering unionization of Taiwanese journalists (Feng, 1994; Lin, 2002).

As a consequence of weak unionization in the Taiwanese media industry, there was little resistance from journalists to the introduction of ICTs, compared with their counterparts in other countries (see Marjoribanks, 2000). Taiwanese journalists were inclined to adopt the use of new technologies that management required. Many reporters consider computer competency to be a necessary skill for reporting work and supported the introduction of computers in the newsroom, although somewhat reluctantly (Pan, 1993). Generally speaking, a majority of Taiwanese journalists complied with management requirements to use new technologies, and thus the process of introducing ICTs in the newsroom has been relatively smooth.

**ICTs' impact on Taiwanese newspaper reporters**

Through the analysis of interviews with reporters, this section discusses, from the point of view of the de-skillling thesis, the ICTs’ impact on newspaper reporters as described above. First, ICTs used in the workplace require new skills. Thus, reporters find their traditional news gathering and reporting skills are not enough and have to learn additional technical skills. Secondly, as productivity has been improved, the introduction of new technologies has simultaneously increased the pressure and workload on reporters’ shoulders on the one hand, and on the other hand, it has enhanced management control over the production process. Finally, ICTs have resulted in the degradation of reporting work, to a certain extent, and
thus influenced the job opportunities of journalists. Because the technical skill of ICT use appears to have become more important, managers would rather hire a less qualified but technically adept reporter instead of an experienced journalist with fewer technical skills.

The transformation of skills
Computerized reporting has restructured the reporter’s writing process. With word processing programs, reporters are able to replicate stories immediately with only several clicks of the mouse. As duplicating paragraphs, or even whole files, is easy, reporters have become accustomed to obtaining paragraphs that have already been written by other reporters or from press releases. Thus, the reporter’s traditional skills, such as writing copy and stenography, have declined (interviewee 8). One experienced reporter said, “The diversity of writing among different reporters has been reduced because of duplicating. . . . As a result, the reporter’s writing skill and analytical ability are declining. You knew what you wrote when you had to finish stories in pen. On the contrary, a reporter might not even understand what he or she duplicated” (interviewee 20).

While the computer has changed the writing process, the Internet has altered reporters’ news gathering processes. Using the Internet to research background information on news events is a *sine qua non* for journalists now. Although the Internet allows reporters to gather abundant data easily and quickly, this new technology has very much transformed the way in which reporters access and interview sources. Before the emergence of the Internet, reporters had to interview sources or attend press conferences to obtain usable information. Now, many journalists tend to acquire documents and background information on news events through the Internet, where a lot of information is publicized (interviewee 8). Instead of attending events, some reporters rely on event information found on websites. A few reporters copy stories from online newspapers rather than writing according to their own interviews and observations (interviewees 13 & 14).

In the online newspaper, reporters’ writing skills have changed dramatically. The average length of stories in online newspapers is shorter than that of traditional newspapers. In newspapers, a medium-sized news story ranges from 600 to 800 words, but in online newspapers, the number of words of a long story is expected to be less than 600 words (Kuo, 2001). Explained one reporter, “[Management thinks that] Internet users are too impatient to scroll down web pages, so we are required to finish a story within one page, an estimated 500 to 600 words” (interviewee 19). To supplement for the deficiency caused by short stories, reporters have to add hyperlinks in each story by which users can click and then connect to Web pages that contain related stories or related terms’ definitions (interviewee 23). The skill of describing a story has been reduced to the technique of creating hyperlinks on a website. Not only have long stories diminished, but also the features and the comments have declined in online newspapers compared with traditional newspapers. Online newspaper journalists are required to write many straight news stories for routine events that do not require much of the reporter’s analytical ability and observational skills (interviewee 21; Kuo, 2001).
The increase in workload and pressure

Generally speaking, reporters’ workloads have increased from the use of computers because management expects reporters to finish more copy and longer stories in a shorter time. According to a previous study, both the number of stories and the number of words each reporter has been asked to finish every day have risen 20% on average since the introduction of computers (Cheng, 1996). Similarly, reporters responding to our study said that the emergence of the Internet has also increased their workload. Some reporters said they had to write one or two additional 100-to-200-word stories in the morning for their website’s “instant news” features (interviewees 10 & 21). Compared with reporters at traditional newspapers, online newspaper reporters suffer the requirement of a greater number of stories and words. In a typical working day, each traditional newspaper reporter writes an average of three stories, or approximately 1,500 to 2,000 words, while each online newspaper reporter is required to finish six to eight stories (Yi, 2000). The workload of a reporter at an online newspaper is estimated to be double that of one at a traditional newspaper (interviewees 18, 19, & 20). There are two major reasons that management of online newspapers demands that reporters produce more. First, the number of inventory news-holes is unlimited on the Internet. A reporter who worked at an online newspaper said, “I was asked to write as much as I could. It seems that I was always typing stories on computers during work hours. . . . It makes me feel that online news stories are worthless” (interviewee 12). Second, because of the “immediacy” of the Internet, reporters must constantly “update” the newest developments of news events. Therefore, a developing event might be covered on the news website several times in a day (interviewees 20 & 23).

Like the impact on nineteenth-century manufacturing workers that Marx described in *Das Capital*, the introduction of new technologies allows management to assign each worker additional duties that formerly belonged to other positions. In addition to the increase in the numbers of stories and words each reporter is required to write, reporters are also asked to complete more tasks because of the introduction of ICTs. Taiwanese reporters have taken over the typing duty formerly done by typists. One reporter complained that at the beginning stage of learning to type, “It seemed that I would never finish the work [by typing]. . . . The pressure is more severe than before. I even feel that I have a second job” (UDN Worker Monthly editors, 1991). Moreover, it has become routine for management to ask reporters to proofread before they file the text. At the *United Evening News*, management even threatened to fine reporters for typographical errors (interviewee 8). Online newspaper reporters are expected to do more jobs, such as composing headlines (interviewees 18, 19, 20, & 21). Another duty for online newspaper reporters is to create hyperlinks in the coverage. Because the length of an online story is too short to provide a comprehensive analysis of an event, after finishing a story, online newspaper reporters must search for related information and previous stories on the Internet to create hyperlinks that provide readers with more information (interviewee 19). At ETtoday.com, which recently
began the service of sending short messages of news abstracts to subscribers’ cellular phones, reporters are now required to write an additional 60-word abstract of each news story (interviewee 23). The more channels provided by the development of ICTs for the media owner to earn money, the more tasks management requires of reporters.

Besides an increase in workload, reporters’ work hours have been extended. Reporters find that using ICT devices has shortened commuting time, but the price is to work at all hours. ICTs have improved journalists’ flexibility at work, but in the meantime have further blurred the boundary between their work and leisure. A young reporter described this dilemma: “Of course it’s good to go back to the office only once every month. . . But, it seems that I am always on duty—twenty-four hours a day, seven days a week. Even after the deadline, I still have to check my e-mail account and news stories on websites and TV to know if there was any accident on my beat” (interviewee 10). As instant communication devices such as beepers and cellular phones are becoming widespread in Taiwan, reporters may be called to work at any time, even when they are on vacation. Moreover, because pagination allows copyeditors to change stories close to the deadline, reporters have to be on standby for re-writing stories until the newspaper is published (interviewee 17). The work hours of reporters in the electronic newsroom are longer than that of their counterparts in the traditional newsroom. In the regular work hours—from 9:00 to 9:00—reporters are required to continually submit stories as fast as possible (interviewees 8, 12, & 18). If there are any accidental events on the beat, the reporter has to work at all hours. Interviewee 20 complained, “We could be awakened at midnight by a phone call from our boss if an accident happened . . . . At the traditional newspaper, reporters won’t be bothered after the newspaper is published, but we don’t have this ‘privilege.’ Compared to reporters in the traditional newsroom, our work is more arduous and tense.” Thus, the job of the online newspaper reporter has become more stressful.

The intensification of managerial control
Accompanying the evolution of communications technology, reporters have also experienced a decrease in their autonomy and an increase in surveillance by management. In the mid-1990s in Taiwan, beepers were widespread in the press, but they were replaced by cellular phones in the late 1990s. Cellular phones have now become a necessity in the workplace for newspaper reporters. In addition, the use of electronic communication, including e-mail and online instant message programs such as MSN Messenger, have become commonplace among reporters in the last few years. For journalists, these communication devices have improved the speed and convenience of communicating with their sources and supervisors. However, management has exploited the new communication devices, such as beepers and cellular phones, to increase its control over news production, and as a consequence, it has put more pressure on reporters.

Some reporters feel they are not independent and autonomous any longer due to the introduction of beepers and cellular phones. Because supervisors can now easily and quickly reach reporters and assign them jobs anytime and anywhere,
even when reporters are off-duty or on vacation, these new technologies have eliminated the distinction between journalists’ work and leisure time (interviewees 8, 10, & 15). Many reporters consider cellular phones to be more intrusive than beepers, because reporters are able to choose when and where to return the calls on their beepers, while they feel compelled to take calls whenever and wherever their cellular phones ring. Most supervisors also demand that reporters answer their calls immediately, no matter what reporters are doing at that time (interviewees 10, 13, 14, & 16). Thus, one experienced journalist sarcastically named his mobile phone the “dog chain” (interviewee 17). Ironically, another reporter said that she could not work without her cellular phone, even though she hates it. “I feel unsafe every time I forget to bring my mobile phone; I am afraid I will miss important messages” (interviewee 6).

Although some reporters praise the advantages of MSN Messenger, which has reduced phone time with their supervisors (interviewees 3 & 7), recently many others have criticized this instant message program because it is an annoyance when they are working. The feeling of being monitored by their supervisors and managers has disrupted and irritated journalists (interviewees 1 & 19). One reporter says, “The windows of MSN Messenger keep appearing on the computer screen and distracting me from writing” (interviewee 1). The use of e-mail has also enhanced management's control over news production. For instance, one supervisor at the Economic Daily News circulated his evaluation of every reporter's daily performance to all members of his team through e-mail, which made these reporters feel so stressed and embarrassed that some of them applied to leave that team (interviewee 10). Another supervisor at The United Daily News asked sources to send him e-mails of press releases that they sent to reporters, and then he would tell reporters which stories were “must-writes” and how these stories should be presented. As a result, reporters lose control over which stories they choose to write and which points of a news story they prefer to emphasize (interviewee 6).

Computers allow management to evaluate a reporter's performance in a quantitative way. For example, management at The United Evening News counts the number of words each reporter submits every month. “At the end of every month, management announces the statistics of the number of words and the average words per day. Those reporters who rank low are criticized” (interviewee 6). Quantitative evaluation in the electronic newsroom is even more horrific for reporters. At ETtoday.com, management even counts the number of “page views” for each story (interviewee 18). In this way, ICT use has resulted in increased pressure on reporters. Interestingly, such quantitative evaluation in the newsroom exactly reflects the way Braverman (1974) described control over clerical workers in the early 1970s: “Some typewriter concerns equip their machines with a mechanical contrivance which automatically counts the strokes made on the typewriter and records them on a dial” (pp. 307-308). He commented, “The reduction of office information to standardized 'bits' and their processing by computer systems and other office equipment provides management with an auto-
matic accounting of the size of the work load and the amount done by each operator, section, or division” (p. 334).

**The degradation of work and the decrease in employment**

The copious and easily accessible information on the Internet has changed the reporter’s traditional skill of gathering and analyzing data. In the past, experienced reporters prevailed in news reporting because they had abundant documents that they had collected over a long time period. Nowadays, reporters often turn to the Internet as the major source for obtaining information, because this new technology provides a convenient approach for searching data. Therefore, many experienced reporters have abandoned their own news libraries, which were built through their own daily effort over a long period of time, and the traditional skill of relying on the reporter’s own experience to gather information has been replaced by use of the Internet (interviewees 8, 11, 14, 16 & 17). Because experienced and inexperienced reporters share online databases, the difference in information gathering between the two groups of journalists has been reduced or even eliminated.

The heavy workload and the requirement of immediacy have re-shaped online newspaper reporters into “typing-machines.” Under severe pressure, many online newspaper reporters are too busy to analyze and verify information carefully. A reporter who previously worked at ETtoday.com remembered, “I felt like I was typing all the time . . . . I just ‘copied’ press releases rather than ‘reporting,’ because I had no time to cover events themselves” (interviewee 12). The consequence of this lack of reporting is that online newspaper stories are usually fragmented and superficial. Online newspaper reporters found that what they provided on the Internet were “messages” rather than “news stories” (Lin, 2000). Due to limitations of time, the quality of online news is poor. “The story in the newspaper is more comprehensive, because newspaper reporters interviewed probably three important sources,” an online newspaper reporter explained, “while we, online newspaper reporters, could only reach one on account of the pressure of time” (interviewee 19). Because of the fragmentation of online reporting, many online newspaper reporters are frustrated with their work. Compared with her previous work experience in traditional newspapers, one experienced journalist described her current job at ETtoday.com as “a typist rather than a reporter” (interviewee 23). A young reporter lamented, “Working on the website, focusing on the instant news, we have to make great efforts providing information which is trivial and kind of boring . . . . Indeed, sometimes I feel like I am not a reporter” (interviewee 21). The shift of the role of the online journalist has been from that of a “reporter,” whose major duty is to provide analysis based on facts and his or her own experience and knowledge, to that of a “recorder,” whose major duty is to offer information only. The accumulated effect of all of these trends is that in the newsroom, experienced reporters have lost their advantage (Lin, 2000).

As a result of these developments, some experienced reporters feel anxiety over the threat that young journalists might replace them. “I find my interviewing
and writing experience at work to be less important than before,” an experienced reporter stated, “because finishing short and simple stories does not much involve the reporter’s interviewing and writing abilities” (interviewee 14). These fears turn out to be justified. In the late 1990s, the Taiwanese newspaper business went into a steep decline (see note 6). Along with the severe financial pressure and the advanced development of technology, newspaper management began to cut a significant number of employees, including reporters. Many newspapers implemented what was called the “Policy of Encouraging Older Employees to Retire/Resign Voluntarily,” which provided additional compensation to those who voluntarily retired or quit.9

By placing more values on employees’ technical skills of ICTs use than on professional experience and knowledge, newspaper managers have successfully “degraded” reporting work and thus have eliminated, to a certain degree, the uniqueness of each experienced journalist. As a result, reporting positions for experienced reporters have been threatened, as mentioned above, because management found that in order to decrease wage costs, it was feasible to employ young reporters to substitute for experienced reporters. The implementation of the “Policy of Encouraging Older Employees to Retire/Resign Voluntarily” at Taiwanese major newspapers is evidence that computerized automation has had a negative impact on job opportunities for experienced journalists. At The China Times, the publisher set a goal in 2001 to cut 500 employees who had more than 10 years of work experience (Fang, 2001). Because traditional skills are transformed into new skills which are easier for young employees to learn, management can employ those formerly not qualified to be reporters. For example, in 2002 The United Daily News announced its new policy to hire “U-seeds” reporters, who are current college students, to provide stories about their college campuses on the Education page (Wu, 2002). The introduction of ICTs, through which the requirements for being a reporter have been lowered, has increased the size of the “industrial reserve army” of Taiwanese journalists and reduced the value of experienced reporters.

Conclusion
A prevailing view among journalists is that their job opportunities are relatively free from the negative impact of new technologies, while machines have replaced many blue-collar jobs (interviewee 11). However, the de-skilling effect of ICTs on workers is not limited to a decrease in the number of employees. According to Braverman, the degradation of work resulting from the introduction of new technology and scientific management is twofold. On the one hand, compared with the craftsman of yesteryear, who had full control over the process of craft production, the worker today is less skilful because she or he only takes charge of a specific and limited part of the production process. On the other hand, because of the “separation of conception and execution” in the capitalistic mode of production, workers’ jobs that required coordination of mind and hand in the old days have been fragmented and trivialized into mere physical activities. Workers today, as a consequence, have lost the “mastery of the conceptual aspect” of their work.
As their tasks are trivialized and simplified by new technologies, even the jobs of professionals in the creative industry could "be performed by an operator with average levels of intelligence, education and dexterity" (Ryan, 1991, p. 43). Therefore, the study of ICTs’ impact on journalists should take into account how the introduction of new technologies has minimized reporting work and reduced the uniqueness of experienced reporters.

Through in-depth interviews and a review of secondary sources, this paper utilizes the de-skilling thesis to examine the negative impact of ICTs on reporters in Taiwan. Because the impact of ICTs on the labour process is an issue of the “experience over time of change,” it is appropriate for the researcher to conduct interviews with journalists to analyze these research questions. However, this paper only focuses on workers’ voices and thus overlooks management’s viewpoints. To examine the question more comprehensively, a further study is needed to reveal how and why management administered the introduction of ICTs in the newsroom and how managers respond to the critiques from employees.

The results of the present study show that, first, because the introduction of ICTs has improved productivity, management at Taiwanese newspapers has increased the workload of reporters—a consequence similar to what happened in the nineteenth century, described by Marx in *Das Capital*, when management required blue-collar workers in sweatshops to assume greater responsibility through the use of new machines. Today, each reporter has to write more words and finish stories more quickly, and they have to handle responsibilities that formerly belonged to other workers, including typing, proofreading, and even creating hyperlinks on websites. Supervisors utilize new communication devices, which enable instant interaction, to increase their control over the work processes of reporters. As a result, the introduction of ICTs in the newsroom has further blurred the boundary between reporters’ leisure and work time and consequently degraded their working conditions.

Furthermore, as management incorporated new technologies in the newsroom, reporters experienced not only the transformation of skills, but also the degradation of their profession. The introduction of ICTs has trivialized journalistic work and consequently lowered the value of skilled and experienced reporters. In the past, experienced reporters had an advantage in the workplace because they had personal connections and more knowledge about how to access and interview valuable sources and they were better able to obtain information from their personal news libraries. However, these skills have much less value in today’s newsroom. Even for online newspaper reporters, work has been trivialized into a mechanical job, since they are becoming simply “typing machines” in order to meet quantity requirements from management. Because the uniqueness and value of a reporter’s experience has been rapidly reduced through the introduction of ICTs in the workplace, management’s demand for experienced reporters has decreased. Many Taiwanese newspapers have lain off a great number of experienced journalists and have replaced them with younger reporters. By doing so, management has successfully cut salary costs, although the quality of news
reporting may have diminished as a consequence of employing less experienced reporters. Some optimists predicted that the development of new technologies would be capable of emancipating workers, particularly high-skilled employees. ICTs do have positive influences if the technologies are used to enhance the quality of reporting work for reporters and readers, rather than to cut the budget for corporations. However, the experience of Taiwanese newspaper reporters reveals that the use of ICTs at work mainly serves employers’ interests, because the ways new technologies are used in the newsroom have been largely determined by management. Under the circumstances, the development of ICTs will continue undermining the rights of journalists.

Notes
1. ICT products are hardware components that “fulfill the function of information processing and communication including transmission and display” and “use electronic processing to detect, measure and/or record physical phenomena or control a physical process” and software, networks, and media that “enable the function of information processing and communication by electronic means” (Organization for Economic Co-operation and Development, 2002, pp. 81-86). In this study, ICTs used in the newsrooms of Taiwanese newspapers mainly refer to digital devices and services, including computers, portable computers, digital cameras, beepers, cellular phones, pagination, word processing programs, image processing programs, the Internet, and so on.
2. Online newspaper reporters are also the subjects for this research study, since online newspapers are usually seen as an extension or a new form of the traditional newspaper in Taiwan.
3. Among the two-dozen interviewed reporters, seven were from The Liberty Times, another seven from the UDN Group, three from the China Times Group, two from The Apple Daily, and five from online newspapers. The four newspapers are known as the “Big four” in Taiwan (Lu, 2005).
4. Keeping interviewees anonymous in this paper is to prevent these employees from any possible punishment if management recognizes these reporters by the descriptions.
5. The Taiwanese newspaper industry has been shrinking since the late 1990s (“Taiwanese Newspapers,” 2002), as Table 1 shows.

Table 1: Newspapers’ Advertising Income, 1990-2002

<table>
<thead>
<tr>
<th>Year</th>
<th>Advertising income (NT$1 million)</th>
<th>Growth rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>16,626</td>
<td>-14.37</td>
</tr>
<tr>
<td>2001</td>
<td>19,416</td>
<td>-11.32</td>
</tr>
<tr>
<td>2000</td>
<td>21,895</td>
<td>-3.74</td>
</tr>
<tr>
<td>1999</td>
<td>22,745</td>
<td>-13.92</td>
</tr>
<tr>
<td>1998</td>
<td>26,424</td>
<td>6.28</td>
</tr>
<tr>
<td>1997</td>
<td>24,863</td>
<td>12.92</td>
</tr>
<tr>
<td>1996</td>
<td>22,019</td>
<td>-5.01</td>
</tr>
<tr>
<td>1995</td>
<td>23,181</td>
<td>0.73</td>
</tr>
<tr>
<td>1994</td>
<td>23,012</td>
<td>4.16</td>
</tr>
<tr>
<td>1993</td>
<td>22,092</td>
<td>5.54</td>
</tr>
</tbody>
</table>

Sources: Annual surveys conducted by Brain Magazine.
6. In 2002, ChinaTimes.com attracted 3.5 million page views every day, while UDN.com had 2 million page views daily. The other major online newspaper, EToday.com, attracted 5 million page views (Weng, 2002).

7. By 2003, the proportion of Internet subscribers to the total inhabitants in Taiwan was 34.56%, which ranked fifth among all countries; the worldwide average was only 5.6% and that of “high income countries” was 24.51%. The penetration rate of the cellular phone in Taiwan was 110.99%—that is, each Taiwanese person owned more than one cellular phone on average—which ranked second in the world, while the worldwide average was 22% and that of high-income countries was 71.03% (Directorate General of Telecommunications, 2005).

8. According to the Taiwanese Journalists Association, the total number of “active” news media outlets in 2002 was 41, including 18 daily newspapers, eight news magazines, five terrestrial television stations, and 10 satellite news channels (Chang, Kuang, Liu, & Tsai, 2003).

9. For instance, the number of employees at the Central Daily News who left in 1999 was 45% of its total staff at that time, and the number of layoffs at the Independent Evening Post was 41% of its total employees (National Federation of Mass Media Trade Unions, 2000). At the United Daily News, the total number of employees reduced from 3,600 in 2000 to 2,300 in 2002 (UDN Worker Monthly editors, 2002a; 2002b). The number of employees at The China Times has decreased from 4,000 to 2,500 from 2001 to 2003. Management is still attempting to downsize the number of employees to 1,500 (Worker’s Voice editors, 2003). The number of job losses described here applied to both blue-collar workers, such as compositors, and white-collar workers, such as reporters.

References
Kuo, Hwa-de. (2001). My experience changing work from the traditionally produced newspaper to online media. Media Watch, 21, 66-67. [Chinese]


UDN Worker Monthly editors (2002b). CEO Wang: Keeping the good employees, kicking out the bad ones. *UDN Worker Monthly, 166*, 1. [Chinese]


