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ISSUE BRIEF

Information Technologies Have Changed Work in Remote Call Centers

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Many companies have adopted information technologies (IT) to establish or enhance call centers in response to competitive pressures to serve customers better. Call centers are satellite work sites, separated from the company's employment and customer core, and they are usually dedicated to specialized customer functions—such as telemarketing, customer service, or technical support. A call center may be owned by the core company or by a partner or subcontractor.

Remote call centers appear to be a rapidly growing phenomenon, but no comprehensive reliable statistics are available about the number of centers or the number of people working in them. It has been estimated that more than 75,000 dedicated customer service call centers are in operation in the United States (Wallace and Hulme, 2001).[i]

This issue brief presents key findings about the implications of IT for working in remote call centers from *IT at Work: Information Technologies and Remote Working in the United States* (available at http://www.sri.com/policy/csted/reports/sandt/it). This literature review examines the economics and management literatures from 1990 to early 2002 and covers not just call centers, but work of any kind that has been moved from a pre-existing employment location and is mediated by improved IT.

As noted above, call centers perform a variety of business processes—customer service, in response to incoming calls from actual or potential customers; marketing and sales via outgoing calls; and technical support services. More recently, the Internet has made it possible for call centers to deliver enormous amounts of data directly to customers and has also enabled call center employees to conduct interactive chats with customers and improve service to customers who call on the phone. Through web-enabled call centers, customers receive much faster service and companies complete transaction documents faster and with fewer mistakes (Wallace and Hulme, 2001).

The literatures reviewed in *IT at Work: Information Technologies and Remote Working in the United States* sometimes do not distinguish between customer service centers and telemarketing centers, even though servicing actual or potential customers and making cold calls for sales are two very different business processes. These literatures tend to focus on customer service centers for which key results are summarized in this issue brief below.

Market Segmentation

Many companies have segmented their customer base according to revenue or profit potential. Their customer service call centers reflect this segmentation, with each center specializing in a single segment and operating independently of other segment-specific centers (Batt and Keefe, 1999; Batt, 2000; Moss, Salzman, and Tilly, 2000; Batt, 2001; Hunter et al., 2001). A common segmentation scheme classifies customers as individual/residential, small business, and large business.[ii] These segmentation strategies are now common in telecommunications, airlines, finance, banking, and retail services. In call centers, work content and conditions (including IT use), employment, compensation, and human resources policies differ markedly by customer segment (Batt, 2000, 2001; Moss, Salzman, and Tilly, 2000).[iii]

IT Use and Effects

Call centers in the individual/residential ("low-revenue") customer segment generally house many employees (up to 1,500)[iv] and handle a high volume of calls (100 or more per employee per day). IT dramatically affects the work environment in these facilities. Employers use IT to regulate the pace of call responses, reduce time spent per customer, set quotas, and monitor employees closely. IT has also increased job complexity for these employees, who must process a steady flow of e-mails updating product and customer service data and juggle multiple functions, systems, and screens while they communicate with customers (Keefe and Batt, 1997).

In her studies of the telecommunications industry, Batt (2000, 2001) compared the use of IT in call centers serving various customer segments. Electronic monitoring was used more extensively in centers serving residential customers (where employees typically were monitored

49 percent of the workday) than in centers serving small-business clients (34 percent) and large-business clients (21 percent). Although their jobs have become more complex, employees in residential call centers had relatively little access to IT as a resource: an average of 3.6 software programs and 10.1 e-mails per day, compared with 6.7 programs and 19.8 e-mails in large-business call centers. In residential centers, most e-mails were product updates, whereas employees in large-business centers used e-mail for coordination and problem-solving with colleagues and supervisors.

IT has brought much more information—continual product and customer data updates—and service capability to the desktop terminal of customer service agents. Their jobs have increased in complexity in recent years. Customer service agents now handle increasing functions, systems, and screens simultaneously. At the same time they offer “emotional” service as in the past, empathizing with and soothing irate customers (Keefe and Batt, 1997).

IT has also affected the composition of call center staff. For example, IT systems automatically distribute calls to available service agents, replacing operators; and software “expert” systems have, at many sites, replaced supervisory staff. IT has also made it possible for specialized call centers to serve very large geographic regions, replacing numerous localized customer service operations and changing the context of human resources policies and practices for call center employees.

The economics and management literatures report clear evidence that use of IT affects worker outcomes in customer service call centers. For example, in their study of call centers in the telecommunications industry, Batt and colleagues (2002) showed that use of electronic monitoring (a common feature of centers serving individual/residential customers) was associated with higher quit rates and lower pay, whereas use of IT as a resource for employees (more common in centers serving business clients) was associated with lower quit rates and higher pay.

Opportunities for Advancement

In the telecommunications, retail, and finance industries, call centers serving individual/residential customers usually are separated from other parts of their companies by distance with only IT links to the rest of the organization. These centers tend to have relatively high proportions of part-time and temporary workers, most of whom are engaged in the same occupation.[v] A few researchers reported that corporate strategies have minimized opportunities for advancement in these centers (Batt and Keefe, 1999; Moss, Salzman, and Tilly, 2000). Job ladders typically are either very short or nonexistent, and promotions usually involve relocation and considerable self-investment.[vi]

Call centers that serve higher revenue corporate clients have very different human resources policies. In the telecommunications industry, for example, large-business call centers house “account executives” who sell highly customized services online. Most account executives are employed full time,[vii] are college-educated males, and receive relatively high pay based at least partly on performance (Batt, 2000). This college-educated workforce would have high expectations for advancement. Both Batt (2000) and Moss and colleagues (2000) report higher incidence of promotions inside large-business centers in contrast to centers serving other market segments. However, Batt’s data, showing only a slightly higher incidence of internal promotion compared to other segments, suggest no internal advancement opportunities for most of this workforce. This is not surprising; large employers throughout U.S. industry have dramatically reduced internal career ladders (Cappelli, ed., 1999).

Whether these call centers provide structures for mobility or positive career outcomes for more than a few employees remains a question that requires more data. Call centers separated by distance from the rest of the employer’s operations have rather flat organizational structures. Promotions for any but a few employees may, as a result, require relocating to other parts of the firm or, as is increasingly the case throughout U.S. industry, moving to another employer. Data that detail workforce internal advancement and that compare these economic outcomes in call centers with those at core employment sites would more clearly tell us about the economic opportunities of these agents. Further empirical work could also answer the question if large-business call centers mirror or represent a departure from the structures and practices at the employers’ core employment sites.

In their study of 11 service firms in the electronics, finance, food, and retail industries, Moss and colleagues (2000) showed that opportunities for advancement were more common for higher skilled workers in centers serving business clients than for lower skilled workers in centers serving individual customers. The extent of these opportunities, however, depended on corporate strategy. Some companies emphasized internal labor markets at call center sites, improving career paths by concentrating more employees in fewer, larger centers; others expected employees to depend on external labor markets for upward mobility. The researchers also described companies that occasionally co-located call centers with other corporate functions. Both lateral mobility and upward mobility were most prevalent in call centers located next to corporate headquarters. According to Moss and colleagues, companies that offered opportunities for advancement to call center employees serving business clients but not to those serving individual clients purposely located the two groups of workers in separate facilities to avoid comparisons and conflict.

Unionization

Market segmentation is not the only force driving corporate policies and worker outcomes for call centers. For example, in the telecommunications industry, Batt and colleagues (2002) found that unionization was related to opportunities for advancement in residential customer service centers. Although only 22 percent of these facilities were unionized, those that were had internal labor markets that compared favorably with historical norms (more opportunities for job and pay advancement in a wider range of occupations). In both residential and small-business call centers, the percentage of workers promoted from within was greater in unionized call centers than in nonunionized centers (40 percent versus 36 percent in residential centers, 50 percent versus 31 percent in small-business centers). Moreover, employees in unionized residential call centers received far more ongoing training than employees in nonunionized centers (2.8 weeks per year versus 1.9 weeks), which translated into more opportunities for entry-level employees to advance their careers into a wider range of occupations (including technical fields).

"High-Involvement" Human Resources Strategies

Typical human resources management for "low-skill" call centers (i.e., those serving individual/residential customers) is to offer low pay and accept high turnover. Two studies, however, described employers who chose "high-involvement" strategies to reduce turnover even in low-skill centers. In one of the few studies to link workplace features and performance outcomes in a large sample, Batt and colleagues (2002) identified several "high-involvement" practices in telecommunications industry call centers: offering employees discretion over work, using IT as a resource for employees, hiring more highly skilled workers, and hiring fewer part-time and contingent workers. They showed that, even in individual/residential call centers, these practices increased sales growth not only directly but also indirectly (by significantly reducing quit rates, which adversely affect sales growth).[viii] Based on their multi-industry case studies, Moss and colleagues (2000) suggest that managers choose to invest more in their workforce to cope with tight regional labor markets; the literature, however, does not yet offer conclusive evidence on this.

Pay

The literature suggests that pay levels and systems in call centers are highly differentiated by customer segment. Related evidence is reported in several studies. Batt (2001) showed that, in the telecommunications industry, customer segmentation accounted for about one-third of the differences in median annual pay and median total compensation (base pay plus commissions and benefits). Employees in centers serving large-business customers received a 21 percent wage premium over employees in centers serving residential customers. Employees in residential call centers also had much less opportunity to gain performance-based pay. Batt (2000, 2001) reported that median total compensation in residential call centers ($35,700) was lower than in small-business centers ($45,500); in large-business centers, median compensation increased dramatically, to $78,400.

In telecommunications call centers, women earned significantly lower annual median wages than men because women were highly concentrated in the residential market segment (Batt, Colvin, and Keefe, 2002; Batt, 2000). In residential call centers, the workforce was predominantly female (72 percent of customer service agents). Women's share of the workforce was 60 percent in small-business centers, and 46 percent in large-business centers.

Several studies (Keefe and Batt, 1997; Batt, 2001; Batt, Colvin, and Keefe, 2002) found that unionization dramatically affected pay levels for call center workers within market segments, especially the individual/residential segment. For example, in the telecommunications industry, unionized workers in residential call centers earned $33,362 (median annual base pay plus overtime), 20 percent more than nonunionized workers; in small-business centers, unionized workers earned $44,457, 25 percent more than nonunionized workers (Batt, Colvin, and Keefe, 2002).

In their multi-industry study, Moss and colleagues (2000) showed that, within market segments, pay levels for call center employees depended on geographic location, labor market conditions, and management strategies. For example, companies that chose to become the dominant employer in a region paid better wages for low-skill employees in “low-end” call centers than other employers recruiting from the same labor pool. To minimize turnover in their low-end centers, these companies substituted better pay for internal career ladders. Nevertheless, employees in these low-end centers were paid significantly less than employees in call centers that served the same companies’ more profitable clients.

Conclusion

IT has allowed the growth of remote call centers that have relocated customer service jobs across the United States and around the world. Whether this growth has increased or reduced customer service employment is as yet unknown. The findings summarized in this issue brief derive from only a few large studies, corroborated by case studies. However, the quality of the survey data (large national random samples, stratified by geographic region and establishment size) makes these findings valuable as initial information and as suggestions to direct future inquiry.

These studies present an important result from call center implementations of IT. IT has enabled the segmentation of work and human resources and compensation practices, maintaining, and in some cases increasing, disparities between less-educated and more-educated workforces in pay, working conditions, and advancement. The table on the next page compares some of the characteristics of residential, small-business, and large-business call centers.

Research about other forms of virtual remote working is exploratory, though suggestive for further inquiry. For more detailed information about the insights and limitations provided by existing evidence, see the full report, *IT at Work: Information Technologies and Remote Working in the United States*, available at http://www.sri.com/policy/csted/reports/sandt/it .

Comparison of Residential, Small-Business, and Large-Business Call Centers in the Telecommunications Industry

Characteristic	Residential Centers	Small-Business Centers	Large-Business Centers
Volume of calls per employee	100 per day	64 per day	32 per day
Electronic monitoring	48.7% of day	34.2% of day	20.7% of day
Access to IT	Average 10.1 e-mails per day Average 3.6 software programs	Average 7.2 e-mails per day Average 3.9 software programs	Average 19.8 e-mails per day Average 6.7 software programs
Staffing	86.1% permanent full-timers 9.8% part-timers 5.4% temporary workers 72.2% female Average 13.0 years education High turnover	87.8% permanent full-timers 9.5% part-timers 3.1% temporary workers 59.5% female Average 13.8 years education	95.4% permanent full-timers 3.8% part-timers 0.6% temporary workers 45.8% female Average 15.2 years education
Pay (median total compensation)	$35,700	$45,500	$78,400
Ongoing training	2.0 weeks per year	1.9 weeks per year	2.3 weeks per year
Internal promotions	37.6%	33.7%	44.3%

Sources: Batt, 2000 (Tables 1-3); Batt, 2001 (Table 3).

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[i] The same analysts estimate that there are between 80,000 and 150,000 informal call centers in the U.S. Informal call centers perform the same customer functions as dedicated call centers, but the employees are not solely dedicated to answering phones (Wallace and Hulme, 2001).

[ii] This scheme is used in the telecommunications industry and, increasingly, in other industries (airlines, financial services, banking, and retail sales). Hunter (1999) explains that this kind of segmentation has been more difficult to implement in banking, where a person may well start as an individual customer and become a business client.

[iii] Subcontractors that perform customer service activities for other companies also specialize by customer segment (Batt, 2001). An employee in a subcontractor call center may answer calls as a representative of any one of a number of contractors. The subcontractor's policies and conditions determine work and pay outcomes for call center employees independently of the contractors' policies and conditions.

[iv] Unpublished data received via personal communication with Rosemary Batt.

[v] Part-time employment is concentrated in the lower value-added service segments. Eighteen percent of operator services workers and 10 percent of residential customer service representatives work part time. That contrasts with less than 4 percent of the large-business workforce. Part-time employment is more prevalent in all remote call centers than the use of temporary workers. Temporary workers are 5 percent of the residential services workforce, and 0.6 percent of the large-business workforce (Batt, 2000).

[vi] For example, some low-skill workers in call centers have learned computer skills on their own and found system analyst or technical helpline jobs at other sites (Batt and Keefe, 1999; Moss, Salzman, and Tilly, 2000).

[vii] In telecommunications industry call centers serving large-business clients, part-time and temporary workers constitute only 4 percent and 0.6 percent of the workforce, respectively (Batt, 2000).

[viii] Batt has subsequently extended her analysis of these survey data in 2002. However, this publication appeared after the completion of this literature review, so remains outside the scope of this report.