A study examined the effects of plant closing on hourly production employees' attitudes and behavior intentions at a General Electric (GE) plant in Columbia, Tennessee. A survey was constructed and used to collect data from 5 percent of the 400 hourly employees in November 1993, shortly after the announcement of the plant closing. The survey requested information on job search activity, future plans, motivation of employees and other workers, and demographic information. The research showed that participants' average age was 43.5 years and the average length of service was 14.3 years. Seventy-four percent were Caucasian, and 61 percent were male. The majority of these employees had taken some steps in getting information about other jobs. Only 22 percent had not looked for another job. With an attractive severance benefits package, 32 percent said they would take some time off before going back to work. The majority of those sampled (60 percent) intended to go back to school or take training classes; 67 percent intended to make use of the new outplacement center on the site. Only 17 percent were willing to relocate outside the Middle Tennessee area. Most respondents perceived that their own performance and motivation had not changed since the announcement of the closing, but that other employees' performance and motivation had dropped significantly. Employees expressed feelings of resignation and sadness. The study concluded that job loss is stressful but that GE employees in Tennessee have taken appropriate action in preparing for their future. The study also concluded that the 6-month notice the employees were given helped to put them in a much better situation than if the company had just given them the 60 days required by federal law. Corporations gain cost savings, improve their corporate image, avoid legal issues, and meet their social responsibility by providing a long notice period and outplacement services for their personnel. (The survey is included in the report.) (KC)
Plant Closing

Effects of Plant Closing on Employee Attitudes: The Case of the GE Plant in Columbia, Tennessee

Thomas Li-Ping Tang
Department of Management and Marketing
Middle Tennessee State University
Amy Beth Crofford
Saturn Corporation

We would like to thank Cory Burgess and Whitney Jones for their assistance.

Correspondence concerning this article should be addressed to Thomas Li-Ping Tang, P.O. Box 516, Department of Management and Marketing, College of Business, Middle Tennessee State University, Murfreesboro, Tennessee 37132. Electronic mail may be sent via Internet to ttang@mtsu.edu.
Effects of Plant Closing on Employee Attitudes:
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For the 1980s and the early 1990s, many employees have become displaced workers due to downsizing, reengineering, workforce reductions, and plant closing. Displaced workers are defined as individuals who had three or more years of tenure with their employer and who lost a job due to either a plant or business closing or moving, slack work, or the elimination of their position or shift. Between 1983 and 1988, 4.6 million workers were displaced using this definition. Further, 2.7 million workers lost their jobs due to plant closing which accounted for 57.9 percent of those displaced workers.

Plant closing may have a traumatic effect on the health and well-being of those dislocated workers and the surrounding community. In response to these concerns, Congress passed the Worker Adjustment and Retraining Notification (WARN) Act (Public Law 100-379) on August 4, 1988. It requires employers (with more than 100 employees) to provide their employees with 60-day advance notice for closing that results in an employment loss for 50 or more workers during any 30-day period. The WARN Act became effective on February 4, 1989.

Proponents of the Worker Adjustment and Retraining Notification (WARN) Act argue that the right to capital mobility can not be extended so far as to destroy workers' lives. Business must operate in a manner that addresses the concerns and welfare of their workers and the surrounding community.
In the literature of plant closing, there are two divergent streams of research. First, many researchers focus on the negative attitudes, adverse health consequences, increased alcoholism, suicide rates, divorce rates, and reduced psychological well-being of individual workers. The major advantage of advance notice is the time it gives individual employees and the communities to adjust to the loss of the plant. Advance notice also reduces the duration of time without work, but it has no impact on subsequent earnings. The disadvantages of advance notice are related to the potential for sabotage, not an orderly shutdown of the plant, and the premature attrition of the work force.

It has been suggested in the literature that productivity is not affected by the announcement of plant closing. In some cases, the productivity is even improved which is related to the lingering hopes that good performance may save the plant and also hopes for good recommendations for future employment opportunities.

Second, other researchers focus on the financial costs using a firm level of analysis. Stockholders respond positively to project termination announcements with the hope that they would no longer be supplying money to a project with an unfavorable future. However, stockholders may view layoffs as a signal of financial distress. One study found that longer periods of advance notice have significant negative effects on firm value. Another study revealed no relationship between the amount of advance notice provided and firm value. However, cumulative abnormal returns
(CARs) are positively related to industry performance and negatively related to the percentage of displaced employees.

In this paper, we will examine the effects of plant closing on hourly production employees' attitudes and behavior intentions at a GE plant in Columbia, Tennessee. We will identify several variables examined in the employee attitude survey and review related literature on plant closing.

**Plant Closing**

In a study of over 100 industrial workers in western Pennsylvania who were laid off from the National Castings (NC) and General American Transportation Corporation (GATX) in 1983 and 1984, a researcher found that periods of advance notice facilitate the reemployment process. In that study, NC employees received only seven-day notice prior to closing, whereas GATX employees received information four months before closing and formal notice two months prior to closing. The average age of these workers was 44 years old. They also had 16 years of experience with the company.

The NC employees were out of work for an average of 2 years compared with GATX average unemployment of 1.4 years. (This was due to a deep recession in the area.) The employees with GATX began looking for employment prior to their termination. The majority had to take a pay cut in their next job. About 21.5% of these workers took part in retraining and education programs following the plant closing.
Most of the displaced employees for both companies reported depression during the first year after the closing, while the NC employees, given seven-day notice, reported feeling a strong sense of betrayal and hostility toward unions and corporations. A positive outcome of advance notice is a shorter spell of unemployment. A synergistic effect allows them to have an emotional adjustment time to regroup, with better mental well-being as the result.

Job Search Activity. With corporate American downsizing, the 1990’s recession has hit older workers harder than others. Layoffs are about double for workers aged 35 to 54 when compared to 1970 recession figures. Displaced employees can anticipate their job search being a full-time job. A survey by Jobsearch UK of over 3,000 unemployed workers who had been out of work an average 8.5 months note that 45% of the sample spent four hours per day actively seeking employment. Twenty-four percent reported spending up to eight hours per day.

Employment and Pay. Part-time employment rate has increased from 16.9 percent in 1966, to 20.9 percent in 1970, and then to a record high of 25.1 percent in 1983 (for the period 1959-1987). The part-time rate declined to 23.3 percent in 1989. A consequence of the job downturn is an increase in part-time employment. The Bureau of Labor Statistics (BLS) asserted that six million plus are forced part-time employees in the absence of their full-time jobs. Even during the recent recession in the early 1990s, when full-time
employment was falling rapidly, the number of part-time jobs held up and even increased.

For the past two decades, Americans have suffered a steady decline in their average income. After adjustment for inflation, the real incomes of U.S. workers have declined about 13 percent from 1972 to 1992.

Displaced workers often must take huge pay cuts. Another statistics show that only half of laid-off employees match new pay with their previous pay. According to the director of human resources for General Motors, "Only 10 percent are likely to find a job as good as they had before".

Relocation. The BLS also reported that people are on the move to new jobs in other states; 1.3 million moved to another state in the 1980's to find work. This improves their odds of finding work by 17% over those who stay put. One GE employee noted, "I've got an interview in Louisville--and I'm going because I have to, not because I want to". A study contends that geographically mobile employees increase employment chances. By using time-series cross section data on state unemployment and industry employment from 1950-1985, they found that differences in unemployment among geographic markets are large and persistent over time.

Job Search behavior. A survey, conducted using data from a federal survey in 1980 of over 8,000 families, found that unemployed searchers receive fewer job offers than employed job searchers. Further, unemployed searchers reject 53-57% of job offers, refuting past studies which reported that initial offers
are usually accepted by the unemployed. That study contained mostly low-income families.

**Double-income households.** Unemployment is especially hard for couples who lose their jobs at the same time. In 1992, there were 181,000 unemployed couples in the U.S., according to the Bureau of Labor Statistics.

**GE Appliances Plant Closing, Columbia TN**

On September 1, 1993, General Electric Company announced its intent to close its compressor facility in Columbia, TN, which supplies rotary compressors for refrigerators and room air conditioners. Dick Stonesifer, president of GE Appliances, cited financial reasons for the closure as high global capacity encourages sourcing the product overseas at competitive prices. This announcement gave over 400 hourly employees 6-month advance notice before termination of employment. Federal law requires companies give only 60-day notice in the event of layoffs or plant closing.

Employees were aware that efforts were being made to find a buyer for the facility. In letters sent to the Governor of Tennessee, state representatives, GE CEO Jack Welch, and President Clinton, GE employees expressed concern over efforts to sell the facility which has been in operation for 22 years. A 19-year service employee agreed that this decision had been looming for some time, but "Everyone was hoping it wouldn’t happen".

It was estimated that the unemployment rate in Maury county, Tennessee increased more than one percent with the closing.
Concerned local officials with the Maury County Economic Development Commission have talked with competitive companies to encourage a buyout of the facility to keep some if not all of the jobs in the county.

Two employees speaking with local media expressed concerns over the situation. One male employee with GE for seven years had been laid off earlier in 1986 at another local facility, Monsanto. "There was life after Monsanto and there will be life after GE," the employee philosophically stated. Another female employee noted, "I don't know what I'm going to do; I came here when I was twenty-two years old and I have spent half of my life at GE-Columbia".

Research Procedure

To find out the effect of plant closing on GE employees, a concise, 12-item questionnaire was designed. The first author distributed this questionnaire to employees randomly shortly after the announcement of plant closing (See Table 1). Their participation in this study was completely voluntary and their confidentiality was protected by answering the questionnaire anonymously. Research data were collected on November 19, 1993 from five percent of the workforce at the GE Appliances Plant.

Research Results

The participants' demographic background information is provided as follows: The average age of these participants was 43.5 years and the average length of service was 14.3 years. The majority of these participants (74 %) were Caucasian; 26% were non-
Caucasian. Thirty-nine percent of employees were female, while 61% of employees were male. Average education was 12.3 years, and 9% lack a high school diploma. Seventy-four percent of the sample were married, 26% were single or divorced. In terms of the employment status of the spouse, 100% of these spouses work. The number of people living in the household ranged from one to six individuals.

The major results are presented in Table 1. The survey requested information on job search activity, future plans, motivation of employees and other workers, and demographic information.

The majority of these employees had taken some steps in getting information about other means of employment. Only 22% had not looked for another job. With an attractive severance benefits package, 32% said they would take some time off before going back to work. The majority of those sampled intended to go back to school or take training classes (a total of 60%).

An Outplacement Center has been constructed on site to help employees find other employment for at least a year after plant closing. Sixty-seven percent indicated they will make use of the provided facilities. Relocation may hamper the workforce as only 17% of those sampled indicated a willingness to relocate outside the Middle Tennessee area. Most are local residents who have never lived elsewhere. Most respondents perceived that their own performance and motivation have not been changed since the
announcement of the closing. However, they thought that other employees' performance and motivation have dropped significantly.

Further, employees were asked to rate several emotions using a 5-point scale: from 0 (no feeling) to 5 (strong feelings). Means and standard deviations of these nine different emotions are listed in Table 1. It appears that these displaced employees expressed feelings of resignation and sadness at the time of this survey.

GE employed several couples. Both have to leave after the plant closing. These people must consider relocation, job priorities, and children when they evaluate their employment equation in the process. Therefore, they may have experienced a high level of stress.

Severance Benefits. GE employees have received considerable severance benefits. Depending on service, employees receive from 1.5 to 2 weeks' pay for each year service, one year of extended medical benefits, retraining benefits up to $5,000, preferential hiring at other GE locations, and employee assistance during this time. Thus, GE has offered a safety net for its displaced workers.

Conclusion

Job loss is a difficult experience, and individuals find it to be a stressful period. GE employees facing this situation in Columbia, TN, have taken appropriate action in preparing for their future. At the time of this study, 5% of the workforce have left the company for comparable employment in the Middle Tennessee area.
Plant Closing

GE employees are in a much better situation having six-month notice than if the company had just given them the 60 days required by federal law under the 1988 WARN (Worker Adjustment and Retaining Notification) Act. The responses reported in this study are similar to those revealed in the literature.

Why should an organization be responsible for the implementation of such as seemingly costly and time-consuming outplacement program, especially if employees are terminated due to financial burdens such as plant closing? There are several good reasons (1).

Cost. While cost does not necessarily refer to finances, it is the savings of money that will most likely command the most attention. When Goodyear Tire & Rubber Co. closed two tire-making plants in Los Angeles and Conshohocken, Penn., Goodyear invested $300,000 in outplacement counseling and saved $4,300 in supplemental unemployment benefits for each of the 1,200 hourly workers who found employment within 25 weeks of termination--an estimated total savings of $4 million.

Corporate Image. The maintenance of corporate image and reputation is another incentive for companies to assist displace workers. The success experienced by displaced workers during the plant closing may project the image of the organization as a caring employer.

Legal Issues and Employee Morale. Displaced may attempt to mitigate loss. The longer employees are out of work, the greater
the potential suit for damages. Employee morale also can be severely damaged if a co-worker is treated unfairly.

**Social Responsibility.** Organizations need to relieve the corporate conscience and to repay for workers' past efforts. This is especially true for employees caught in a corporate failure or the closing of a plant or factory.

**The Psychological Cost of Plant Closing.** Responses to termination due to plant closing by some employees are so severe that the emotions have been compared to those associated with the grieving process. The five stages of the grieving process are: denial, anger, bargaining, depression, and acceptance. The realization that displaced workers can be anywhere along the ride of the emotional "roller coaster" is of great importance to human resources managers, outplacement counselors, corporations, and the community. An efficient process could do much to prevent many of the ill effects of plant closing.

American corporations are moving from an economy in which there are a lot of harding-working people to one in which there are fewer, smarter-working people. Jobs are not just lost temporarily; rather, they are being wiped out permanently as a result of computerization, improved machinery, and new ways of organizing work. Large corporations move their capital freely across international boundaries, seeking the lowest costs. State-of-the art plants can be erected anywhere around the world. Further, due to global competition, we all simply have to work smarter, faster, better, and cheaper.
Future jobs will require far more demanding problem-solving skills, diagnostic skills, team-work, and decision making. Labor Secretary Robert Reich stated clearly: "If we have an adequately educated and trained workforce and a state-of-the-art infrastructure linking them together and with the rest of the world, then global capital will come here to create good jobs. If we don’t, the only way global capital will be invested here is if we promise low wages."
Note

Table 1

Employee Survey Items and Responses

<table>
<thead>
<tr>
<th>Employee Survey Items</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. GE’s intent to close the Columbia plant was announced on September 1, 1993. Are you actively seeking another job by doing any of the following? (Check all that apply.)</td>
<td></td>
</tr>
<tr>
<td>(a) Have applied for a job</td>
<td>19%</td>
</tr>
<tr>
<td>(b) Read classified ads in newspaper to information on jobs</td>
<td>25%</td>
</tr>
<tr>
<td>(c) Talked to prospective employers to get information</td>
<td>14%</td>
</tr>
<tr>
<td>(d) Have interviewed for a job</td>
<td>14%</td>
</tr>
<tr>
<td>(e) Have been offered a job</td>
<td>6%</td>
</tr>
<tr>
<td>(f) Have not looked for a job</td>
<td>22%</td>
</tr>
<tr>
<td>(g) Other</td>
<td></td>
</tr>
<tr>
<td>2. What are your plans after GE closes?</td>
<td></td>
</tr>
<tr>
<td>(a) Find another job immediately</td>
<td>24%</td>
</tr>
<tr>
<td>(b) Take some time off, then look for a job</td>
<td>32%</td>
</tr>
<tr>
<td>(c) Work in home and choose not to work outside</td>
<td>4%</td>
</tr>
<tr>
<td>(d) Go back to school</td>
<td>12%</td>
</tr>
<tr>
<td>(e) Retire</td>
<td>16%</td>
</tr>
<tr>
<td>(f) Other</td>
<td>12%</td>
</tr>
</tbody>
</table>
3. Do you intend to make use of the $5,000 in education and retraining benefits available through GE?
   (a) Yes, I want to go back to school for a degree 15%
   (b) Yes, I want to take some training classes 45%
   (c) No, I do not plan to take any education or training classes 35%
   (d) Other 5%

4. There will be an Outplacement Center on site to make job-hunting easier for employees. Do you plan to use the Outplacement Center when looking for employment?
   (a) Yes, I will use the Outplacement resources 67%
   (b) No, I will not use the Outplacement resources 33%

5. Would you be willing to relocate or move from Middle Tennessee for another job?
   (a) Yes, I would relocate to another area 17%
   (b) No, I will stay in the Middle Tennessee area 83%

6. Realistically, what are your wage expectations about your next job?
   (a) I expect to earn more than in my current job 13%
   (b) I expect to earn less than in my current job 29%
   (c) I expect to earn approximately the same amount as my current job 29%
   (d) I am not sure 29%

7. Have you noticed a change in your work performance/motivation since the closing announcement?
(a) There is no change in my work performance/motivation 58%
(b) There is a change in my performance; I am not as motivated as before 42%
(c) There is a change in my performance; I am more motivated than before 0%
(d) Other 0%

8. Have you noticed a change in other GE employees’ work performance/motivation as a whole?
(a) There is no change in other employees’ performance/motivation 15%
(b) There is a change in their performance; they are not as motivated as before 80%
(c) There is a change in their performance; they are more motivated than before 0%
(d) Other 5%

9. Have you felt any of the following in relation to GE’s closing? Please rate each from 0 to 5, with 0 = No Feeling to 5 = Strong Feelings

<table>
<thead>
<tr>
<th>Feeling</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Shock</td>
<td>2.50</td>
<td>1.95</td>
</tr>
<tr>
<td>(b) Denial</td>
<td>1.94</td>
<td>1.66</td>
</tr>
<tr>
<td>(c) Anger</td>
<td>2.78</td>
<td>1.90</td>
</tr>
<tr>
<td>(d) Optimism (feel good about future)</td>
<td>2.22</td>
<td>2.07</td>
</tr>
<tr>
<td>(e) Anxiety (stress over future)</td>
<td>2.56</td>
<td>1.86</td>
</tr>
<tr>
<td>(f) Depression</td>
<td>2.06</td>
<td>1.69</td>
</tr>
</tbody>
</table>
Plant Closing 18

(g) Sadness 3.00 1.72
(h) Physically Illness (ulcer, etc.) 0.33 0.69
(i) Resignation (feel there is nothing I can do to change things) 3.06 2.22
(j) Other

10. My marital status is:
   (a) Single/Divorced 26%
   (b) Married 74%

11. Employment status of spouse if married:
   (a) Spouse works 100%
   (b) Spouse does not work by choice 0%
   (c) Spouse unemployed 0%

12. Number of members in your household including yourself
   (a) 1 21%
   (b) 2 37%
   (c) 3 26%
   (d) 4 11%
   (e) 5 0%
   (f) 6 5%
Biographical Sketch

Thomas Li-Ping Tang holds a Ph.D. degree in Industrial and Organizational Psychology from Case Western Reserve University. He has taught psychology at National Taiwan University and at Middle Tennessee State University (MTSU). Dr. Tang is currently Professor of Management in the College of Business at MTSU. His research interests are in the areas of work motivation and individual differences. He has published his research in Journal of Applied Psychology, Personnel Psychology, Journal of Organizational Behavior, Journal of Management, and among others.

Amy Crofford holds an undergraduate BS degree in Marketing from the University of Tennessee and a MBA from Middle Tennessee State University, specializing in international management. She began her career with General Electric in Columbia, TN, as a Human Resource Co-op student while in school. Upon graduation, she joined GE as a financial analyst. Crofford is currently a financial analyst with Saturn Corporation, a subsidiary of General Motors, in Spring Hill, TN.