The Components of a Successful Company Occupational Safety and Health Program in a TQM Setting

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Abstract

The purpose of this study was to describe the components that contribute to the success of a safety and health program as perceived by company managers, temporary workers, and annual workers in an industrial setting where the Total Quality Management (TQM) philosophy is used. The major unit of analysis for this study was a single occupational safety and health program within a single plant located in Tennessee. Four common methods of data collection were used in this study to collect relevant information: in-depth interview, observation, questionnaire, and document analysis. A number of common and divergent themes emerged from data analysis. The common themes that safety and health were perceived as injury prevention and that safety was a significant part of business success indicated that the success of a program was due in part to the shared beliefs about what safety and health are.

Introduction

"To survive in today's highly competitive, global business environment, companies must hold down expenses in every area of operations" (Chappell, 1995, p. 68). Downsizing, streamlining, right-sizing, restructuring, globalization, quality systems, and team approach are a few of the terms used by industries to describe the focus of business today and of the future. What impact will the new and future way of doing business have on the safety and health profession in the workplace?

According to Minter (1993, p. 24) "increased competitiveness, especially in a global economy, will continue to pressure companies to streamline operations... and get rid of anything that doesn't add value" to the business. Corn (1994) stated that paring of costs prompted U.S. businesses to downsize, decentralize, and establish overseas operations to compete in a global economy. It was also considered profitable to downsize or eliminate the safety and health staff and contract services from safety and health consultants. The demand for safety and health services remains high mainly to "fulfill the short-term needs of compliance-driven programs" (Corn, 1994, p. 113). However, "compliance with OSHA regulations is never going to be good enough" (Thompson, 1993, p. 21).

A study by Thompson (1993) revealed that after twenty years of standard setting and regulations under

OSHA the problem of lost workdays resulting from injury or illness increased by eighty percent from 1972 to 1991. Since then, the picture has not changed much. In 1998, there were 3,800,000 disabling injuries in the American workplace (National Safety Council, 1999). More than 429,800 occupational illnesses' cases were filed with the Bureau of Labor Statistics in 1997 (National Safety Council, 1999). The total estimated cost of work related injuries and illnesses in the U.S. were 125.1 billion dollars in 1998 (National Safety Council, 1999). Therefore, OSHA compliance-driven programs are not effective in reducing injuries or illnesses in the workplace and are not effective in reducing the cost companies occur in compensation claims. To keep down costs, many companies focus on the direct costs associated with work-related injuries and illnesses which, according to Chappell, "wreak havoc on the bottom line and employees' morale" (Chappell, 1995, p. 68).

Even though many companies have successfully reduced their workers' compensation costs through injury prevention measures, it continues to be a national problem (Thompson, 1993). It is estimated that businesses will spend approximately \$62 billion yearly on workers' compensation by year 2000 (Thompson, 1993). From most recent data available from the National Academy of Social Insurance, an estimated \$42.4 billion was paid out for workers' compensation in 1996 (National Safety Council, 1999).

We will see whether the year 2000 projections become true

As businesses reconstruct their organizational structure, compensation strategies must also change to meet the changing demands of a smaller, more diverse workforces that are composed of many insecure and un-loyal employees (Gibson, 1995; Minter, 1993). Temporary employment and part-time workers are a common strategy in today's business environment and according to studies will increase in the future. It is estimated by 2005 temporary services will number 2.1 million. Contingent employees will make up fortythree percent of the average workforce; half will be part-time employees and most of the rest will be temporary employees (Minter, 1993). One problem with the above-mentioned workforce, due to "uncertainty experienced by employees in the workplace" is "limited employment security and organizational loyalty" (Minter, 1993, p. 24).

Studies indicate the key to resolving safety and health problems in creating a positive safety and health culture. A safety and health culture is one that values and practices safety and healthy behaviors and challenges employees to take responsibility for their own safety and well-being as well as that of co-workers (Weinstock, 1994; Chappell, 1995; Boyle, 1994).

Management style is a key factor in creating the positive safety and health environment or culture. According to Thompson (1993, p. 20) "poor safety and health records reflect a management-level problem" and it is the "organizational style and management processes, not worker carelessness, that are the root causes of most accidents." Management must create a culture where all employees benefit from safe and healthful behaviors. "Only by changing the actions of management will the culture and actions of an entire organization are transformed" (Besterfield, 1994, p. 443).

On opposite ends of the organizational structure are bureaucratic industries and collective enterprises, and various other organizational structures lie between (Burawoy, 1991). The question becomes, what are the best practices for creating the most conducive, positive work environment for success today and in the future? The "team" approach is one idea that is popular in literature for creating the safety and health culture (Chappell, 1995). The basis of the team approach to management is, all employees are viewed as

professionals, are treated with trust and respect, is a member of a team, receive recognition for a job well done, and are empowered to create a safe and healthful work environment (Chappell, 1995).

Another way to encourage a positive work environment and a safety and health culture is to develop a strategy that aligns people with an organization's business strategy, for example, a profit-sharing program (Gibson, 1995). This program links compensation (benefits) to the company's (employees') performance, and employees share the rewards of an accident-free workplace through larger distributions (tangible rewards) (Gibson, 1995; Thompson, 1993). Giving employees tangible rewards in exchange for desired behaviors has been common practice among industries for decades (Ewing, 1983).

According to fundamental aspects of the social exchange theory, individuals within an organization seek to accomplish their own goals by responding to resource "exchanges" within the organization (in terms of behaviors) that result in the greatest extrinsic reward and/or least cost (consequence) (Gergen et al., 1980; LeCompte & Preissle, 1993). Therefore, considering the "best" strategy for success, it seems important to examine components of "inter organizational resource exchanges which influence the distribution of power and other aspects of inter individual, interdepartmental, and individual organizational relationships" (Gergen et al., 1980 p. 131).

The most promising management style in terms of creating a positive safety and health environment is Total Quality Management (TQM) (Besterfield, 1994, p. 443; Minter, 1993; Rine, 1994). The focus of TQM is "quality first" achieved through quality systems. The philosophy of TQM requires that the quality philosophy be integrated into everything the organization does. Quality is determined by the customer and it is the customer that determines success. In terms of an occupational safety and health program, the customer is the worker and therefore plays a significant role in decision making concerning safety and health matters (Rine, 1994; National Safety Council, 1994).

According to Rine (1994) safety and quality are synonymous. In other words a company cannot successfully achieve one without the other. A framework for safety presented in the National Safety

Council's Agenda 2000 Safety Health Environment Program involved a process-oriented business approach that emphasized the contributions people make to long-range, permanent solutions to problems. This business approach that stressed continuous improvement, people contributions, and long-range, permanent solutions were identified as the cornerstone of total quality management (National Safety Council, 1994).

It is evident that an ongoing trend in business is culture clarification in which all employees amalgamate to form a single voice that reflects the mission of the organization and that mission is quality. Also evident is the belief that safety and health play a significant role in achieving worldwide quality goals by fostering continuing programs to reduce the risks of injuries and illnesses through training, awareness, and motivational programs; by helping to create a positive attitude toward job performance, increase job satisfaction by reducing job-related stress (psychological and physical); and by helping companies comply with regulatory standards (Calmbacher, 1993; Thompson, 1993, Weinstock, 1994; LeBlanc, 1994).

Successful safety and health programs have many components and philosophies and differ from organization to organization, and rightly so, since safety and health programs should "fit" individual company's mission, goals and needs (Brown, 1995). However, since the wave of the future is one of change and globalization as we have noted above; it is important for safety and health professionals to understand the components that contribute to a successful program in the context of the organizational structure to better provide effective services to companies of today and more so of the future. It is also important for safety and health professionals to understand the management style of the future and to prepare to be a part of this "new way of doing business" again to provide effective services and to justify their existence in the organization. Furthermore, since all employees are considered in the popular organizational structures to be important to identify components that contribute to a successful program from the employees' perspective within the context of the organization. For this study a successful program was one that was effective (reduces the risk of occupational injuries and illnesses demonstrated by

documented evidence that actual injuries and illnesses have been reduced).

The purpose of this study was to describe the components that contribute to the success of a safety and health program as perceived by company managers, temporary workers, and annual workers in an industrial setting where the Total Quality Management (TQM) philosophy is used.

Research Questions Addressed

Overall research question was: what were the components that contribute to the success of an occupational safety and health program within the context of an organizational structure utilizing the Total Quality Management philosophy?

More specifically: 1) how do employees define success in terms of a safety and health program? 2) what components are deemed necessary for a successful program from employees' perceptions? 3) what are the organizational, departmental, and individual processes in terms of communication and decision-making? 4) how are employees rewarded or recognized for participation in safety and health activities? 5) why do employees participate in safety and health activities? 6) what are the prevailing core assumptions at this plant?

Research Data

The major unit of analysis for this study was a single occupational safety and health program within a single plant located in Tennessee. This site was selected because: 1) the company's management style was based on the Total Quality Management philosophy and 2) the company showed a commitment to occupational safety and health by integrating them into the quality system.

Subunits of analysis (i.e., employees, documents and records, and sites within the plant) were selected with the aid of a key informant (the safety manager at the plant). Criteria for subunit selection were that the subunit represented program/organizational operations, in other words, the behaviors, events and context of the surroundings would reflect the organizational and/or program processes.

Methods

Four common methods of data collection were used in this study to collect relevant information: in-depth interview, observation, questionnaire, and document analysis. We used open-ended questions interviews

and closed questions and open-ended items in the employees' questionnaire to explore the perceptions of employees and to obtain accurate and complete information. Observations were conducted which included recording behaviors, events, and the context surrounding the behaviors and events to describe what had occurred and how the people reacted to what occurred. We also analyzed the written safety program, program records, memorandums and bulletins, and company policies relevant to this study to explain the processes that had lead to the current status of the program.

Seven informal interviews were conducted to obtain information from four management personnel, and three annual employees regarding their perceptions of the plant and safety and health program structure, processes, and components to describe their perceptions of a successful safety and health program. We tape recorded each interview and later transcribed the tapes verbatim.

Nearly one-quarter of the employees participated in the completion of the survey, three from foremen, five from temporary employees, and 15 from annual employees. Questionnaires were initially analyzed by using the SAS statistical program for analysis of quantitative items and by grouping qualitative responses by question.

Twelve observations were made. Observations of the behaviors, reactions to questions, and social exchanges of interviewees and small groups were made. Plant site and health promotion/wellness facility observations were also conducted to verify data collected by other sources and to obtain new data.

We had initially planned to observe safety meetings, team processes and daily briefings but there were no teams meeting during the time we were at the plant. We requested a few times for the safety manager to set up observations of daily briefings and safety meetings but he was away from the plant a great deal during the time we were collecting data and we were not able to get access to either of those observations. So, we changed our plans and did some other observations on our own.

One hundred and five pages of documents were analyzed to obtain an understanding of the company and safety and health program status at the time of this study and to later verify other data. Two hundred and ten pages of raw data from interview transcripts, our field notes, questionnaires, and documents were edited, condensed, and organized into the case record.

Data from the case record were inductively analyzed to identify common and divergent themes to answer the research questions.

Results

Key findings from this study included:

- 1. safety and health were perceived as injury prevention;
- safety was an integral part of business success:
- 3. barriers between levels of management must be removed for a quality method of management to be successful;
- 4. management support and employee participation were essential for the success of the company/program;
- 5. middle management had negative attitudes toward and was less supportive of the Total Quality Management processes;
- incentives based on injury rates encourage employees to hide problems rather than solve them:
- 7. incentives based on participation in programs not relating to injury rates motivate employee participation;
- 8. employee participation and input in the decision making process were important but employees had little if any decision making power;
- 9. team problem solving processes were perceived by some as employee empowerment and as means of creating a sense of commitment or loyalty to the company;
- 10. participation in and satisfaction with program activities and processes were influenced by employee attitude toward the company/program;
- 11. job security, employment longevity and previously held core assumptions about business operations in terms of company/program changes, and leadership's attitude influenced employees' attitudes;
- 12. recognition for achievement rather than monthly incentives promoted a sense of pride,

- employee involvement, and commitment to the company/program;
- 13. a reciprocal exchange occurred between teams and the company, with employees receiving empowerment to participate in problem solving and being recognized and the company profited from money saved and having employees investigate and solve problems;
- 14. the organizational/safety culture valued safety first as an integral part of business success, employee driven teamwork, accurate and prompt organizational, departmental, and individual communication, and leadership by example.

Discussion

The company's quality system was a fairly new effort beginning in 1990. Even though a hierarchical structure existed, the barriers between management that were typical of a bureaucratic, centralized management style were being removed and employees were being encouraged to manage themselves through team decision making. The Total Quality method refers to a continuous improvement process. The Quality effort at this plant indicated continuous improvement of not only production processes but also in organizational processes including management style and eventually, we believe, in organizational structure.

A number of common and divergent themes emerged from data analysis. The common themes that safety and health were perceived as injury prevention and that safety was a significant part of business success indicated that the success of a program was due in part to the shared beliefs about what safety and health are. Since this plant defined safety as injury/illness prevention it was not surprising that the focus of the safety and health program was injury prevention and that the measure of success was related to injury/accident rates.

According to Coyle et al. (1995), the typical measure of success of an occupational safety and health program has been, and was at the time of this study, based on man hours lost, direct costs of accidents, and the number and/or severity of injuries. He further indicated that attitudinal problem areas were seldom considered when identifying causes of accidents/injuries and that very little work has been

undertaken to measure attitudes toward occupational health and safety at various levels of organizations.

Management support, employee participation, and awareness and training were identified as the three most important components of a successful safety program. A question emerged regarding the level of management support and employee participation in organizational and program processes.

Data indicated that middle management did not support the decision-making process involving teams and felt that it was management's responsibility to correct problems. This was revealed while we were interviewing a foreman and was supported by other interviewees and by management responses on the questionnaire.

Another question relating to why middle management did not support the processes of the company and did other groups feel the same arose during data collection and analysis. It was determined that some of the foremen, supervisors, and annual workers who had been with the company twenty years or longer were unsupportive of the changes made in the organizational operations relating to Total Quality Management. Many felt that there was nothing wrong with the way business was run before so, "why change it?" Many had worked their way up in the "old, bureaucratic" process to the foreman and/or supervisor position. They had learned what it meant to be "boss" and felt that there was a positive status associated with those positions. Data indicated that some foremen and supervisors also believed allowing employees to have decision-making authority was a threat to their control, power, status, and possibly their jobs. Several foremen indicated that they were satisfied with the amount of decision-making power employees had, while many annual workers were not satisfied.

According to Marchington et al. (1994), middle management could be right about possibly losing their jobs by employee empowerment. If the majority of employees "buy in to" team management and become successful in self management, middle management positions may be seen as an unnecessary cost to the company.

Smith (1996), stated that Quality methods have allowed companies to increase quality and productivity with less supervision. As employees become more and more competent in team/self-management, companies may see that flattening their organizational structure,

often by eliminating middle management, would be profitable for business. In reality supervisors and department managers positions are at greater risk of termination than foremen. The foreman's role in a Quality system is one of mentoring, coaching, and/or leading teams in team management. Foremen who assume this role may be viewed as valuable assets to business success.

Annual workers also expressed dissatisfaction with the team effort. Some because they had not had much opportunity to participate on teams. Others, like the foremen and supervisors, came from the "old way" and did not want to change. Downsizing and threats of lay offs were other factors in annual workers' dissatisfaction with the company and program.

In 1992 the company made an effort to cut costs to the company by decreasing workers' compensation insurance costs. This was done by eliminating annual workers and contracting people to do their jobs. Contract workers are not covered under the company's compensation insurance. Their injuries did not go on the company's records nor was the company responsible for their compensation. This created a negative attitude from annual workers toward the At the same time, management was company. implementing their new Total Quality System as well as beginning the health promotion/wellness center. Some feared losing their jobs and again that could happen if downsizing continues to occur. Some negative attitudes from the early 90's may have carried over to present time influencing behaviors relating to participation in programs.

Those who actively participated in team management seemed to have a sense of partnership with the company. Their attitude was, "I'm participating in teams, I'm looking out for myself and my co-workers for the company." They felt that the company's success meant their success. They also felt that team participation empowered them to make decisions relating to their jobs. They believed that they were significant contributors to decision-making about the operations of the business and that they were significant to the success of the company.

Awareness and training were believed to be essential to a successful program. Several awareness/training efforts were identified as a part of the safety and health program. Awareness efforts included those made by the nurse in relation to health

topics, safety meetings/daily briefings and the awareness/incentive program.

Many felt that awareness and training were keys to increasing employee participation. It was believed that if employees were aware of a problem and had the necessary training to solve the problem they would get involved in the problem solving process. However, 80% were participating in the awareness/incentive program while only 30-35% including management, were involved in the problem solving process.

Awareness and training may be important once a person gets involved in order to successfully participate in the problem-solving process but from the data from this study it did not seem to promote participation. The problem seemed to be in employees' attitudes toward the team process.

According to Hollander (1978), employees require a sense of being fairly rewarded to remain inside a group (in this case a team) and to be satisfied. Those employees who had expressed satisfaction with team participation were also those who felt team participation empowered them to make decisions about the business operations and who expressed that they were motivated by intrinsic rather than extrinsic rewards.

There was considerable disagreement about the incentive program. Some felt that incentives were bad for business, while others thought they were the keys to success. Other questions and themes emerged from exploring the issues relating to incentives.

Incentives offered to employees to motivate them to participate in the awareness component of the safety and health program seemed to be effective in motivating them to do so. This was the portion of the program that seemed to get the most recognition and approval from all sources. It involved employees answering a six-question quiz each month in order to participate in a drawing for a prize (not money).

The disagreement was in giving incentives based on injury rates. If an employee incurred an injury that required medical care (a recordable injury) it would disqualify him/her from participating in the monthly drawings and the annual drawing for the "nice" prize. Recordable and lost-time injuries also disqualified the plant from receiving group or plant awards and in terms of an outstanding safety award that meant employees would have lost a \$50 gift certificate each. It was believed by some that injury rate-based

incentives discouraged employees from reporting injuries and following proper procedures in terms of filing appropriate regulatory forms.

The other question was, are incentives effective in encouraging participation in non-injury-based activities. Participation in the awareness incentive program dramatically increased to about 80% and remained high after "employees say what nice gifts they could get for participating." However, the same type incentives were offered for participation in the health promotion/wellness program and participation was about 20 to 21%, not too impressive. Incentives did not seem to work to motivate participation in health promotion. The question is why do incentives not motivate participation?

About 75% of the employees were over age 45 years. They probably were not interested in playing basketball, participating in 5k and 10k runs, nor in getting on an exercise machine for the first time in their lives. It would certainly take more than a fanny pack with a water bottle, tee-shirt, and a power bar to motivate this group to begin and participate on a regular basis in a health promotion/wellness program. Activities designed to target the needs and interests of 45+ year old males with a background in construction would be difficult but would possibly increase participation.

Another reason participation may have been low in the area of health promotion was that health promotion was not shared as part of the safety and health definition and was not integrated into business processes. The program activities were not of "high-quality" that reflected the interest and needs of individuals and/or the organization; nor was participation in the program convenient to the employees. One annual worker indicated that he would like exercise to be a part of business procedures. He suggested exercise breaks where all employees would stop work and exercise for a short period of time. This would not be voluntary but rather a part of daily business.

Health promotion has been defined as "the systematic efforts of an organization to enhance the wellness of its members through education, behavioral change, and cultural support" (Opatz, 1985). Literature suggests those worksite health promotion programs not only bring about positive changes in

employee health but also increases productivity and employee morale (Baun et al., 1992).

Recognition for achievement seemed to be more satisfying to recipients and more effective in creating loyalty and team spirit than incentives. Recognition of team achievements encouraged team work and unity, incentives were individual in nature and therefore did not really promote team spirit.

According to Smith (1996), traditional safety incentive programs that use extrinsic motivators such as prizes, gifts, and/or money destroys intrinsic motivators such as pride and self-preservation which are the focus of quality safety management. Self-preservation or not being injured or killed continually surfaced as a value of employees at the plant and was the self-proclaimed motivator of employees participating on teams.

The organizational culture reflects the relationship between the prevailing core assumption (those takenfor-granted beliefs that is at the core of an organization's culture) (Dyer, 1984). Research showed that the organizational culture and the employees' perception of it, affect the individuals operating within its structure. It was also demonstrated that different individuals form different perceptions of their work environment based on differing events, procedures, and practices in each individual organization. There is a fair amount of agreement that measuring organizational culture provides a useful tool for managing/changing behavior within an organization (Coyle et al., 1996).

This plant's core assumptions were transactions between employees and the company were reciprocal, employees were capable of identifying and solving problems within their departments, employees need supervision to get the job done, reward achievement, and safety meant injury/illness prevention and was the key to business success.

From the core assumptions it was determined that this plant valued collective, reciprocal decisions making in a supportive, hierarchical structured, safety oriented environment that focused on injury/illness prevention.

Conclusions

The success of an occupational safety and health program was dependent in part upon the shared definition of success within an organization, an organizational culture that integrates safety, health, and quality into business practices, values collective decision making and reciprocal exchanges, and employees' perceptions of that culture.

A quality occupational safety and health program requires that the traditional, bureaucratic, centralized management style be dismantled and that barriers that prevent employees from doing their jobs be removed. The successful implementation of a new quality system is dependent upon the employees' positive beliefs and attitudes toward the Total Quality Management philosophy. If a positive Total Quality Management culture does not exist, TQM may not succeed within that organization.

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