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Developing Effective Self-Managing Work Teams in Service Organizations

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A large body of research has emerged on the effective implementation of self-managing work teams (SMWTs). However, virtually all of the research has been conducted in manufacturing settings. This article draws upon the authors' research on SMWTs in two service organizations: an insurance operation and a telecommunications company. The authors focused on two research questions: First, they examined the relationships among different dimensions of SMWT effectiveness. Second, the authors explored the key success factors for SMWTs in a service context. They found that the different dimensions of SMWTs' effectiveness do not reinforce one another and are largely unrelated, and that creating an employee involvement (EI) context, work design, and team characteristics were important predictors of SMWT effectiveness. Surprisingly, team leadership was not important for SMWT effectiveness; in fact, sometimes, team leadership was negatively related to effectiveness.

Self-managing work teams (SMWTs) are groups of interdependent individuals that can self-regulate their behavior on relatively whole tasks (Goodman, Devadas, & Hughson, 1988). The adoption of SMWTs has soared as companies respond to competitive challenges in the current business environment. Organizations are replacing whole layers of management, with SMWTs implemented as a substitute for hierarchy. The Center for Effective Organization's study of Fortune 1000 companies found that 27% of firms in 1987, 47% in 1990, and 69% in 1993 used SMWTs with at least some percentage of their employees. Most organizations which use SMWTs report

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them to be successful and plan to expand their use in the coming years (Lawler, Mohrman, & Ledford, 1995).

Many books and articles have been written recently about SMWTs (e.g., Fisher, 1994; Manz & Sims, 1989; Wellins, Byham, & Wilson, 1991), focusing on a number of subjects, including how SMWTs should be implemented, how tasks for SMWTs should be designed, how SMWTs can develop effective group processes, how the supervisory role must change, and what the organization needs to do to support teams. While our knowledge base on SMWTs is expanding, the evidence overwhelmingly comes from manufacturing settings (for exceptions, see Batt & Appelbaum, 1995; Hackman, 1990; Wageman, 1997). Manufacturing firms eager for productivity improvements and cost control have championed the implementation of SMWTs. Yet, we do not have a clear idea about the extent to which these prescriptions are generalizable to SMWTs in a service context.

However, an increasing number of service firms have adopted SMWTs as well. Unpublished data from the Fortune 1000 study indicate that 52% of service firms used SMWTs in 1993, up from 22% in 1987. To learn more about SMWT effectiveness in service contexts, we studied SMWTs in two service organizations: Aid Association for Lutherans (AAL), a fraternal benefits society that operates a large insurance business, and Pacific Telesis (PacBell), a large telecommunications company.

TWO RESEARCH QUESTIONS

We sought answers to the following two research questions: (a) Do the dimensions of SMWT effectiveness reinforce one another? (b) What are the key success factors for SMWT effectiveness in a service context? We outline the logic underlying these two research questions in the following paragraphs.

RELATIONSHIPS AMONG DIMENSIONS OF SMWT EFFECTIVENESS

Most organizations recognize, at least implicitly, the multidimensional nature of effectiveness (Cameron, 1986). The dimensions of effectiveness are often defined in terms of three sets of stakeholders: owners, customers, and employees. Financial performance metrics are most relevant to owners. From an owner perspective, SMWTs can reduce the need for hierarchy and supervision, thus reducing labor costs. SMWTs can also boost performance through better problem solving and more integrated working relationships.

Customer satisfaction and loyalty are typical customer metrics. From a customer perspective, SMWTs can enhance levels of customer satisfaction through a higher quality of service, thus leading to greater customer loyalty. Quality of work life (QWL) indicators are most relevant to employees. From an employee perspective, SMWTs can enrich jobs and thus enhance employee QWL in terms of job satisfaction, commitment, and turnover.

It is often assumed that these different dimensions of effectiveness operate parallel to, and reinforce one another. There are some mixed findings on the relationship among these dimensions of effectiveness at an individual level of analysis, but no research on the relationship among these dimensions of effectiveness has been conducted in a team context. In the sections following, we provide some logic about the relationships among these dimensions in a team context in a service setting.

QWL and performance. It is commonly believed that employee perceptions of QWL are related to performance in terms of productivity, efficiency, and quality. Intuitively, a happy worker is likely to be a productive worker. When team members are satisfied with their membership in the team, they work better together and for a longer duration, and thus may be more productive. However, extensive prior research on employee motivation has found a weak relationship between employee satisfaction (one part of employee QWL) and employee productivity (Bagozzi & Phillips, 1982; Lawler, 1973). These researchers conclude that the causal direction of the relationship is probably stronger in the converse (i.e., employee satisfaction is more likely to be the result of, rather than the cause of, productivity). In a team setting, it is likely that high levels of team performance will increase the pride that team members feel as part of the team, and will thus increase team member satisfaction and attitudes. We posit that

Hypothesis 1: Employee QWL and team productivity will be positively related in SMWTs.

QWL and customer satisfaction. A recent stream of research by Schneider and his colleagues (Schneider, Gunnarson, & Niles-Jolly, 1994), particularly Schneider and Bowen (1993, 1995), has raised new questions about whether the relationship between employee satisfaction and performance might not be stronger in service organizations. Their basic finding in a series of studies is that positive employee attitudes strongly predict customer perceptions about service. Moreover, positive employee attitudes about human resource management practices (supervision, work facilitation, etc.) are strongly related to customer perceptions of service quality. As Schneider and Bowen (1993) argued: "Employees need to feel that their own needs have been met within the organization before they can become enthusiastic about meeting the needs of customers" (p. 43). Good feelings by employees appear to translate into warmer, more courteous behavior toward customers. Schneider and Bowen caution that this relationship does not necessarily hold in all service settings, because some customers may be more interested in efficiency than warmth. Thus, we posit that:

Hypothesis 2: Employee QWL and customer satisfaction will be positively related in SMWTs.

Customer satisfaction and team productivity. The logic for this relationship is relatively straightforward. When team members are working productively to serve the needs of the customer, the customer is more likely to be satisfied. When service is slow and the customer is kept waiting, customer satisfaction is likely to go down (Sutton & Rafaeli, 1988). We posit that

Hypothesis 3: Team productivity and customer satisfaction will be positively related in SMWTs.

KEY SUCCESS FACTORS FOR SELF-MANAGING TEAM EFFECTIVENESS IN A SERVICE CONTEXT

We were also interested in the success factors for SMWT effectiveness in a service context. Our starting point was the prior research on SMWTs in manufacturing contexts. Most prior research has focused on the microdesign of work groups (e.g., Hackman, 1986). This model of SMWT effectiveness has four categories of predictor variables and is drawn from Cohen (1994) and Cohen, Ledford, and Spreitzer (1996). They are group task design, group characteristics, team leadership, and an organizational context that supports employee involvement (EI).

Team design. Both work design (Hackman & Lawler, 1971; Hackman & Oldham, 1980; Turner & Lawrence, 1965) and sociotechnical theory (Cummings, 1978; Pasmore, 1988; Pearce & Ravlin, 1987) point to task design as contributing to SMWT effectiveness. Group task variety motivates group members by allowing them to learn and use different skills, thereby reducing boredom and monotony (Hackman, 1987) and builds flexibility by enabling members to substitute for one another (Susman, 1976). Group task identity motivates by encouraging a sense of collective responsibility for completing a whole piece of work, and group task significance motivates group members by enabling them to care about the important work they perform. Group

members are also more likely to cooperate with one another when they perceive the work that they do as significant. Group task autonomy increases ownership and a sense of responsibility, which motivates effective performance. Autonomy also enables group members to effectively deal with task and environmental demands by making decisions in the process of doing the work. Group task feedback provides knowledge of the results of work activities, which, in turn, builds internal work motivation. Task feedback enables group members to monitor their activities and make improvements in response to performance situations. In general, group task attributes are viewed as contributing to SMWT and group effectiveness as a result of their impact on motivation according to work design theory, and their impact on self-regulation according to sociotechnical theory (Cohen, 1994; Denison, 1982; Rousseau, 1977; Wall, Kemp, Jackson, & Clegg, 1986). Thus, we posit that

Hypothesis 4: Team design will be related to team effectiveness.

Group characteristics. Group characteristics derived from models of group effectiveness (Cummings, 1981; Gladstein, 1984; Guzzo, Yost, Campbell, & Shea, 1993; Hackman, 1987; Kolodny & Kiggundu, 1980; Sundstrom, De Meuse, & Futrell, 1990) include group coordination, stability, norms, expertise, and innovation. Group coordination involves group members working together without duplicating or wasting efforts, and doing so with team spirit and energy. Self-management depends on effective coordination, and team spirit can be contagious and foster a "can do" attitude that may in turn foster effective performance. Group stability is the continuity of group membership. If there is frequent member turnover, considerable time is lost orienting new members to technical requirements and the way that the group works together. The lost time may interfere with effective SMWT performance.

Group norms are standards shared by group members which regulate group member behavior (Steers, 1981). A norm is well crystallized when there is a high degree of agreement among group members about the amount of approval or disapproval associated with particular behaviors (Jackson, 1965). Consequently, SMWTs are likely to have better crystallized norms than other groups, so that they can regulate member behavior. Almost all models of group effectiveness contain variables related to group expertise, often operationalized as technical and interpersonal skills (Gladstein, 1984; Hackman, 1987; Kolodny & Kiggundu, 1980). These models share an emphasis on composing teams with a mix of members who have the needed expertise. Group innovation processes are the group activities designed to invent and implement new and better ways of doing their tasks. SMWT effectiveness may depend on the group's ability to innovate and come up with new solutions that address changing task demands. Thus, we posit that

Hypothesis 5: Group characteristics will be related to team effectiveness.

Team leadership. Manz and Sims (1987) describe leadership in SMWTs as a paradox. How does one lead teams of employees who are supposed to manage themselves? Wageman (1995) argues that the leader must take on the role of coach rather than director. The author found that an effective coach is a person who helps design an appropriate structure for the team. Fisher (1993) argues that the role of a SMWT leader is multifaceted and includes being a coach, business analyzer, barrier buster, facilitator, customer advocate, and living example. This role requires team leaders to exhibit behaviors that are both considerate of team members and demanding of high performance. Manz and Sims suggest that a leader of a SMWT must encourage selfmanagement in terms of (a) encouraging self-observation/self-evaluation so that the team can gather the information required to monitor and evaluate its performance, (b) encouraging self-goal setting so that the team sets performance goals, (c) encouraging self-reinforcement so that the team recognizes and reinforces good team performance, (d) encouraging self-criticism so that the team is self-critical and discourages poor team performance, (e) encouraging self-expectation so that the team has high expectations for group performance, and (f) encouraging rehearsal so that the team practices an activity before performing it. Regardless, the leader must play a supportive role to enable the team to manage itself. Thus, we posit that

Hypothesis 6: Team leadership will be related to team effectiveness.

EI context. The idea of EI is adapted from Lawler (1986), who asserts that several organizational design elements must be moved to lower organizational levels for EI to be effective. The design elements are (a) power to make decisions about work and business performance; (b) information about work processes, quality, customers, business performance, competitors and organizational changes; (c) rewards tied to performance and development of capability; (d) training that enables employees to develop the knowledge required for effective performance; and (e) resources (i.e., equipment, space, tools, and materials) that permit employees to accomplish their work. Lawler's principles of EI design are derived from motivation theory (e.g., Lawler,

1973). He indicates that the more employees have power, information, rewards, training, and resources, the more they will feel ownership and responsibility for their work, motivating enhanced effectiveness.

Although our EI variables were derived from Lawler (1986), group effectiveness theory also suggests their importance. Hackman (1987) includes supportive reward, training, information, and resource allocation systems in his group effectiveness model. Shea and Guzzo (1987) discuss the importance of a reward system that supports team performance. Gladstein (1984) includes resources, training and consultation, and rewards in her model. Thus, we posit that

Hypothesis 7: An EI context will be related to team effectiveness.

Based on prior research on SMWTs and self-management, we will examine four general sets of predictors of SMWT success: team characteristics, team leadership, task design, and an EI context. In the next section, we describe the two studies used to examine these two questions and test the hypotheses regarding the effectiveness of SMWTs in a service context.

METHOD

We examined the research questions in two service organizations that have implemented SMWTs extensively. In both companies, we had access to their SMWTs, company management, and relevant archival data on effectiveness over several years. We collected data on team effectiveness from the teams themselves, as well as from objective measures of team productivity and customer service.

AID ASSOCIATION FOR LUTHERANS

The first research site was the insurance operation of a fraternal benefits society. AAL provides fraternal benefits and financial services to members. With several billion dollars in assets, its financial products include individual life, disability, long-term care, Medicare supplement insurance, and annuities. It is among the top 2% of all U.S. life insurers in assets, and it carries the highest ratings from Standard and Poors and from Best, which rank insurers on overall performance and financial strength.

We studied the Individual Product Services division (IPS) of AAL. IPS provides all services related to insurance products for field agents and members, including the underwriting and issuing of new business, the servicing of in-force contracts, and claims administration. In 1987, IPS made a major transformation from a traditional, functional, and hierarchical organization to one that was relatively flat, regionally based, and customer-focused. The key work units in the new IPS were SMWTs that provided all services to field agents in their geographic region. AAL was the first in the insurance industry to use SMWTs.

Five years later, the company assessed the status and design of the teambased IPS organization. Internal studies indicated that the transformation to SMWTs had been highly successful in increasing performance. Internal ratings of customer (field agents in this case) satisfaction climbed steadily and had become overwhelmingly positive, with an average of 73% providing favorable ratings (vs. 55% before the change). Productivity (essentially a measure of employee hours per unit of work) increased 40% during the same period. Management was concerned, however, that employee QWL gains following the transformation had lagged gains in customer satisfaction and productivity.

Data collection procedures. We worked very closely with a design team that included SMWT members, team directors, functional specialists, human resources, and IPS top management. Before collecting survey and performance data, we conducted interviews with a sample of members and team directors from 6 out of the 14 customer service teams. IPS had defined SMWTs as

semi-autonomous groups of workers who share the responsibility for carrying out a significant piece of work and who run their own operations with almost no supervision. The group has the authority, and the technical, interpersonal, and managerial skills to make the decisions about how the work should be done.

The design team guided us on our research design and helped us collect relevant data. Survey data from a sample of 94 employees across the 14 SMWTs were collected in 1993. A stratified sample of six to seven team members were selected from each team to reflect the major tasks of the team (underwriting, claims, etc.). We achieved a 100% response rate. On average, 84% of employees were female, and 16% were male. They had worked at AAL an average of 14.5 years and had an average age of 40; 54% had graduated from high school, with another 37% having some college education.

Measures. Team members provided data on three of the four critical success factors identified in Question 2: the design of the team's work, team leadership, and the EI context (because the teams were fairly homogeneous

in terms of composition, we did not collect data on team characteristics; as such, we are not able to examine hypothesis 5 in this sample). All survey scales were assessed with multiple items and achieved excellent levels of reliability (i.e., $\alpha > .70$ with most exceeding .80). Data on the critical success factors were collected in 1993. Data on team effectiveness were collected one year later.

- 1. *Team design*. We used Hackman and Oldham's (1980) five job characteristics to measure the design of the team's work: job variety, identity, significance, autonomy, and feedback.
- Team leadership. We measured three supervisory characteristics to assess team leadership: consideration (e.g., our supervisor is concerned about me as a person), production orientation (e.g., our supervisor insists that members of his or her group work hard), and visibility (e.g., the members of our team interact frequently with our supervisor).
- 3. EI. EI context was measured with three variables in the survey: power, technical training adequacy (e.g., the training I have received has given me the technical skills I need to do my job), and information (e.g., how well informed are you about the team's quality performance?). Several archival measures were also used to assess the EI context, including the number of training classes focused on interpersonal skills and the amount of dollars given as part of the skill-based pay system, the team bonus system, and total team compensation (including base pay, skill-based pay, and bonus).
- 4. Team QWL. We created an overall index of team member QWL from survey data on team members' satisfaction with work (e.g., in general, I like working here); pay (e.g., how satisfied are you with the amount of pay you get?); job security (e.g., how satisfied are you with your job security?); their opportunities for growth and social interaction (e.g., how satisfied are you with the opportunities to be creative and imaginative in your work?); their trust in management (e.g., I feel I can trust IPS management); and their commitment to the broader organization (e.g., I talk up IPS to my friends as a great organization to work for). The measures of job, growth needs, and social needs satisfaction were based on the Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins, & Klesh, 1983). The measure of group satisfaction was drawn from Hackman's (1986) Group Effectiveness Questionnaire. The measure of organizational commitment was drawn from the short version of Mowday, Steers, and Porter's (1979) commitment scale, and the trust measure was developed for use in this study.
- 5. *Team productivity*. We collected archival productivity data for each team based on a weighted measure of work activities per \$100 expended.
- Customer satisfaction. We collected field agents' assessments of their satisfaction with the service provided by each team as measured by a semiannual survey. This was a multiple-item measure created by Parasuraman, Zeithaml, & Berry (1988).

Analyses. Due to the small sample size (14 teams consisting of 94 individuals), our analysis is limited to correlations. We first provide the

correlations among the team member QWL, customer satisfaction, and team productivity measures to respond to the first research question. We then provide the correlations among the scales measuring the key success factors and the three team effectiveness measures (QWL, customer satisfaction, and productivity) to address the second research question. The correlations with QWL are computed at the individual level of analysis because it is an individual level construct. The correlations with the other two dimensions of effectiveness and productivity and customer satisfaction are computed at the group level of analysis because they are group level constructs. For the team level analysis, individual team member assessments were aggregated to the team level by taking the mean of the team members' assessments.

PACIFIC TELESIS

Pacific Telesis is a large, regional, and unionized company. It provides voice, data, video, and wireless communication services to its residential and business customers. We conducted a study in 1989 in the regulated part of the firm that provides telephone services, PacBell. At that time, the company was organized into four geographic regions and several functional groups. Pac-Bell implemented SMWTs in a variety of functions under the sponsorship of local managers. Its management hoped that SMWTs would improve productivity, quality, and customer service. PacBell management approached us to provide an assessment of their SMWTs before diffusing the innovation across the entire organization. Top managers wanted to know if the teams made a difference in performance. Union leaders wondered about their effect on employee morale.

Data collection procedures. Before we agreed to do this research, we conducted interviews with a small sample of employees and managers involved in SMWTs in various functions. Our interviews convinced us that the SMWTs were "real" and that management would give us significant access to the teams. We worked very closely with a company research team composed of ten middle managers and four local union presidents (see Cohen & Ledford, 1994; Cohen et al., 1996, for earlier work on this same population). Two of this study's authors met with the research team six times over a 9-month period. The purpose of the research team was to provide insider insight on the use of teams within the company rather than to specify a particular research design. Before the research team identified where the SMWTs were in the company, we discussed the self-managing team idea at length to make sure we had a common understanding. We defined SMWTs as groups of employees with interrelated tasks who are responsible for making a

product or providing a service, and who make their own decisions about how work is done. We pointed out that SMWTs may or may not have a direct supervisor, and that the presence of a supervisor did not necessarily mean that a team was not self-managing. Because the telephone company used several different names for SMWTs (such as shared leadership teams, directed autonomy teams, self-regulating groups, and self-designing groups), we worked to ensure that the research team did not eliminate appropriate teams from our study because of labeling differences.

Our study includes 50 SMWTs that perform the following functions: (a) providing technical service to customers (such as installing and repairing telephone services), (b) recommending products and services to small business and residential customers, (c) providing clerical support to engineers and other technical personnel, and (d) managing engineers and other technical personnel. We also compiled case studies on SMWTs representing three out of four of the types of work reflected in our study. They included a telephone installation and maintenance crew, a location records clerical support team that drew maps showing the location of company equipment, and a sales team that sold products to small business offices.

The processes used to form teams varied by function and location. In the technical and clerical support areas, a second- or third-level manager made the decision that teams could be beneficial for their area, and worked with their employees to implement them. Reasons for forming a team were often idiosyncratic (e.g., forming a self-management team in a group whose supervisor was out on long-term disability). In one region, the senior vice president of operations asked each of his high-level managers to have at least one SMWT operating under his or her jurisdictions. As a result, that region had more functioning SMWTs than all other regions combined. In sales offices, the move to directed autonomy was part of a statewide effort, and each small business office decided whether it would become self-managing. Once the company decided to implement SMWTs, employees typically participated in their design.

Employees were, on average, 48% female and 52% male. The average age was 39. The average tenure in the company was 15 years; 62% of employees had some college or technical training. Employees had been working in their current job an average of 8.3 years and had been in their current work group an average of 4 years.

Measures. All scales described below were assessed with multiple measures and achieved excellent levels of reliability ($\alpha > .70$, with most exceeding .80). Team members provided data on the four key success factors of

SMWT effectiveness outlined in Question 2: team characteristics, team leadership, task design, and the EI context.

- 1. *Team design*. Team members assessed the same five dimensions of work design as examined at AAL: variety, feedback, identity, autonomy, and significance.
- 2. *EI context*. Team members also assessed the same four dimensions of EI context: power (e.g., how much say does your group have over decisions about the way your work is done?), information (e.g., how well informed are you about your work group's quality performance?), rewards (e.g., my work group is recognized by management when we perform well), and training (e.g., the training I have received is adequate for me to perform my job very well). At PacBell, all measures were drawn from survey rather than archival data, as was the case for some EI measures at AAL.
- 3. Team leadership. Team members assessed SMWT leadership along six dimensions developed by Manz and Sims (1987) to tap effective leadership characteristics for self-management: encourages criticism (e.g., encourages us to be critical of ourselves when we do poorly), encourages rehearsal (e.g., encourages us to go over an activity before we attempt it), encourages goalsetting (e.g., prompts us to define the goals for our own work group), encourages self-reinforcement (e.g., encourages us to praise each other if we have done a job well), encourages high expectations (e.g., encourages us to expect a lot from ourselves), and encourages self-observation (e.g., encourages us to be aware of our level of performance). This is a different measure than that collected at AAL, thus our results will not be directly comparable. However, a similarity in findings will indicate that team leadership can have a powerful influence on effectiveness.
- 4. Team characteristics. Finally, team members assessed the teams' characteristics in terms of coordination (e.g., there is virtually no wasted effort in our group), stability (e.g., there is little turnover of members in our work group), norms (e.g., our work group has clear standards for the behavior of group members), expertise (e.g., members of our group have ample expertise for doing the work of the group), and innovation (e.g., our work group is highly imaginative in thinking about new or better ways we might perform our task). These measures of team characteristics were adapted from Hackman's (1987) work on the design of work teams.
- 5. *Team QWL*. Members of the SMWTs also provided the same data as the AAL sample on their QWL in terms of how satisfied they were with their work, their team, their opportunities for growth and social interaction, and their commitment to the broader organization.
- 6. Team performance. Rather than the archival measures used in the study of the insurance sample, supervisors and upper-level managers provided data on team performance through evaluations of productivity, quality, and efficiency. If managers had more than one team reporting to them, they completed a separate questionnaire for each team. We also collected absentee data from personnel records (i.e., how much did absenteeism cost in the preceding eight month period?).

 Customer satisfaction. No measure of customer service was available from PacBell because there was no common measure across the different types of teams. Therefore, we will not be able to assess the hypotheses relating to customer satisfaction in the PacBell sample.

Analyses. As we did in the AAL study, we use correlations among the SMWT effectiveness measures (team member QWL, team and manager assessments of performance, and absentee data) to assess the first research question. Because we have a larger data set than that available for AAL, we use LISREL analysis to assess the second research question.¹ As with the AAL sample, individual team member assessments were aggregated to the team level by taking the mean of the team members' assessments.

In summary, these two studies provide an interesting context for examining the effectiveness of SMWTs. Both companies were interested in the predictors and outcomes of SMWTs. Both studies can provide useful insight on the research questions because we were able to collect roughly comparable data across two different service contexts.

RESULTS

EFFECTIVENESS FOR SMWTs

The correlations among the different measures of team effectiveness are provided in Table 1 for AAL and in Table 2 for PacBell. Contrary to popular wisdom that different dimensions of SMWT effectiveness reinforce one another, we did not find that the dimensions of SMWT effectiveness strongly related to one another in either organization. In the AAL sample, we did not find support for Hypothesis 1 (employee QWL would be related to productivity) or Hypothesis 2 (employee QWL would be related to customer satisfaction). Marginal support was found for Hypothesis 3; customer satisfaction and productivity were related at a marginal level of significance (p < .10). In PacBell, the lack of strong relationships among the effectiveness dimensions was dramatic. These findings suggest that although employee QWL, customer satisfaction, and team productivity did not work against each other, the dimensions did not necessarily reinforce or support one another.

KEY SUCCESS FACTORS FOR SMWT EFFECTIVENESS

We report the relationships between the key success factors and SMWT effectiveness in Table 3 for AAL and in Table 4 for PacBell.

TABLE 1 Correlations Among Measures of Team Effectiveness: AAL Insurance Division Study

	Employee QWL	Customer Satisfaction	Productivity
Employee QWL	1.00	19	15
Customer satisfaction		1.00	.51*
Productivity			1.00

NOTE: AAL = Association for Lutherans; QWL = quality of work life. N = 14 teams. *p < .10.

TABLE 2 Correlations Among Measures of Team Effectiveness: PacBell Study

	Employee QWL	Team Performance Rated by Managers	Absenteeism Costs
Employee QWL	1.00	.21	17
Team performance rated by managers		1.00	00
Absenteeism costs			1.00

NOTE: QWL = quality of work life. N = 50 teams. No correlations are significant at < .10.

Task design. General support was found for Hypothesis 4: The design of the self-managing team's work was related to team effectiveness. In the AAL sample, the design of the team's work was related to employee QWL. More specifically, each of the five design characteristics—task identity (r = .48), variety (r = .20), autonomy (r = .34), feedback (r = .18), and significance (r = .19)—was related to employee QWL. Employees reported more satisfaction with their work and with the organization, and felt greater trust and commitment to the organization if they found the design of their jobs to be motivating. Identity (completing a whole piece of work) and autonomy (having freedom and independence over how and when to do their work) were particularly important predictors of employee QWL.

One dimension of team design, the variety of work, had both positive and negative effects on the outcome variables. While more variety of work enhanced employee QWL (r = .20), it also decreased productivity (r = -.55). More varied work seems to keep the job interesting, and thus satisfying, for employees. But, at the same time, variety may also reduce team efficiency as

TABLE 3
Key Success Factors: AAL Insurance Division Study
Statistical Correlation Coefficients Between 1993
Success Factors and 1994 Outcomes

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	Productivity $(N = 14 SMWTs)$	Customer Service (N = 14 SMWTs)	Quality of Work Life $(N = 95 \text{ team members})$
Employee Involvement			
Context			
Power	02	.23	.38****
Adequacy of training classes	.24	.40*	.29***
Total interpersonal classes	.45*	.33	03
Performance information	07	31	.37****
Pay for applied skills	.30	.39	08
Total compensation	04	.17	.22***
Task design variety	55**	04	.20**
Identity	08	.10	.48****
Significance	01	05	.19*
Autonomy	25	.01	.34****
Feedback	.39	.23	.18*
Team leadership			
Consideration	33	36	.49****
Production-orientation	19	18	.23**
Visibility	32	43	.35****

NOTE: AAL = Aid Association for Lutherans; SMWT = self-managed work team. *p < .10. **p < .05. ***p < .01. ****p < .001.

			Т	ABLE 4				
Key	Success	Factors:	PacBell	Study-	-LISREL	Path	Coefficient	S

	Performance: Manager Rating	Performance: Team Rating	Absenteeism Costs	Employee Quality of Work Life
EI context	.64***	32	11	.65***
Team design	34	.35***	01	04
Team characteristics	.06	.43***	28*	.16
Team leadership	35***	.09	13	09

NOTE: EI = employee involvement. *p < .10. **p < .05. ***p < .01.

team members must master multiple tasks, resulting in a slower learning curve. Moreover, increased variety may create fragmented work, with efficiency costs resulting from rotation between various tasks. Thus, introducing more variety into the design of the team's work may result in trade-offs between team performance and team member QWL.

We measured the same five dimensions of the design of the team's work in the PacBell study. Task design predicted team performance as rated by team members in the telephone company ($\gamma = .35$). A clearly identifiable, interdependent group task, in conjunction with autonomy to make key decisions about how the team should do its work, were key to the team's performance. This finding supports Hackman and Oldham's (1980) theory on work design that Hackman (1986) later applied to his theory of group effectiveness. In summary, across both companies, the work design of the SMWT was important to the dimensions of team effectiveness.

Group characteristics. General support was also found for Hypothesis 4: The characteristics of the team were also found to be related to team effectiveness. We assessed team coordination, expertise, stability, norms, and innovation in the PacBell sample. Team characteristics predicted both reduced absenteeism costs ($\gamma = -.28$) and team performance as rated by the team ($\gamma = .43$). Especially important was composing a team with the requisite knowledge and skills for competent performance. The composition of the team also needed to be stable enough so that it could develop norms that supported effective performance. The best teams had clear norms, were able to coordinate their efforts, and developed innovative methods aimed at improving their work methods. In summary, the results for PacBell suggest that team characteristics were important success factors for SMWT effectiveness. Because we did not assess the effects of team characteristics in the AAL sample, further research is necessary to establish the generalizability of the PacBell findings in other service contexts.

Team leadership. In Hypothesis 6, we posited that team leadership would contribute to team effectiveness. To our surprise, SMWT leadership was not found to be an important success factor. It was even negatively related to manager ratings of team effectiveness in the PacBell study, and to customer service in the AAL study. The only positive relationship for team leadership was with employee QWL at AAL.

In the AAL sample, we assessed the degree to which supervisors were considerate of team members and demanded that they work hard to produce

high quality outputs. We also measured how visible the supervisor was to the team members. Did the supervisor interact frequently with members of the team, keep him or herself informed about how team members thought and felt about things, and represent team concerns to higher level management? We found all three components of team leadership to be positively related to employee QWL in the AAL sample. SMWT members reported higher levels of satisfaction if their immediate supervisor treated them with respect and consideration (r = .49), but also set high expectations regarding team productivity (r = .23). Employees were also more satisfied if the activities of their supervisor were highly visible to them and if the supervisor interacted frequently with the team (r = .35).

In the PacBell study, we used the measure of team leadership created by Manz and Sims (1987). Those telephone company teams that described their supervisors as doing the most to encourage self-leadership had the worst performance ratings by upper level management ($\gamma = -.35$). This finding suggests that the more that teams reported high levels of interaction with the team leader, the worse that higher-level managers evaluated their team as performing. There are a few possible explanations for this unexpected negative relationship. On one hand, it is possible that supervisors are more likely to "encourage" the teams that are performing less well, and less likely to attend to those teams that are performing well. On the other hand, higher level managers may infer that a team needs help if a supervisor is spending considerable time coaching it. Another possibility is that the more supervisors intervene in the work of SMWTs, the more they get in the way of the team's performance. More research is necessary to determine which interpretation is correct.

El context. Hypothesis 7, the assumption that a team context supporting EI (the extent to which teams had power to make decisions and received training, information, and performance-based rewards) would be related to effectiveness was strongly supported. In the AAL sample, the EI context was the only success factor found to be related to all three elements of team effectiveness. More specifically, different elements of training were significant predictors of team productivity, customer service, and employee QWL. AAL offered a number of technical insurance classes as well as comprehensive interpersonal training on SMWT effectiveness (such as conflict management skills). The amount of interpersonal-skills training predicted team productivity. In contrast, the adequacy of the technical-skills training was particularly

important for customer service and employee QWL (r = .40 and r = .29, respectively). With better technical skills, team members answered field agents' questions more quickly and accurately. Having better technical skills also helped employees to feel more satisfied with their work and work relationships.

The other three dimensions of an EI context were also related to employee QWL in the AAL sample. When team members believed that they had the power to make decisions (r = .38) and had valid information on the team's performance (r = .37), they reported increased satisfaction with their work. Moreover, higher levels of total compensation also increased team member QWL (r = .22). Total compensation included base pay, bonuses based on team performance, and pay increases based on learning applied skills. Thus, each of the four elements of an EI context contributed to the dimensions of SMWT effectiveness at AAL.

In the PacBell sample, the EI context was the only predictor of employee QWL ($\gamma = .65$) and a strong predictor of team performance as rated by managers ($\gamma = .64$). The SMWTs located in business units that provided business information and performance feedback to employees, recognized and rewarded employees, and provided sufficient training and resources were those that the managers said performed the best and had the most satisfied employees. Furthermore, SMWT members who felt they could take initiative in carrying out their work and who had power over what happened in their organization reported better QWL.

For example, the telephone company changed the engineering clerical function to support the transition of the location records clerks to SMWTs. They received training on meeting effectiveness, team building, and communication effectiveness, and spent several meetings learning about the SMWT concept. The company designed new evaluation procedures and, for the first time, the location records clerks received monthly feedback on productivity and on the quality of their mappings from the engineers they served. The team advisor bought gifts for team members after she was recognized for her success in developing the team. Team members also had the opportunity to report on their progress to upper management, and they viewed this as a significant recognition event. Typically, employees at this level had no access to upper management.

In both companies, the EI context was important for SMWT effectiveness. These findings support Lawler's (1986) theory of EI, which suggests that cascading these practices to lower levels of the hierarchy increases employees' morale and performance. Support was found for Hypotheses 4, 5, and 7 regarding the critical success factors of an EI context, the design of the team's

work, and group characteristics. Contrary to expectations, however, Hypothesis 6 regarding the supervisory leadership of teams was not supported.

DISCUSSION

A COMPARISON OF THE TWO STUDIES

When we consider both studies together, the consistency of findings is striking despite the differences in settings and in many operationalizations of our variables. Regarding the first research question, neither study found the dimensions of SMWT effectiveness to be strongly related to one another. Regarding the second research question, we found some consistent patterns of results regarding the relationship between the critical success factors and the dimensions of effectiveness across the two samples. For example, having an organizational context that supported EI was a powerful success factor. The design of the team's work (where team members shared responsibility, had the autonomy to make decisions, and completed a whole, identifiable task) was also an important success factor. In addition, supervisory leadership had a neutral, and in some cases, negative influence on team effectiveness. The consistency in the findings across the two studies suggests that these findings are robust and generalizable across different service contexts.

There were some minor differences between the two studies. We did not assess team characteristics in the AAL study. Thus, we do not know whether the team characteristics that supported effective self-regulation at PacBell would have contributed to effectiveness in the AAL sample as well. In addition, only in the AAL study were any relationships found between the different dimensions of SMWT effectiveness, and these relationships were not strong.

The variation that we found in the pattern of results between success factors and dimensions of SMWTs across the two studies is more perplexing. For example, while the EI context influenced employee QWL at both companies, team design and team leadership also influenced employee QWL at AAL. These findings suggest that AAL has more potential levers at its disposal for enhancing the satisfaction, trust, and commitment of SMWT members than PacBell. In contrast, AAL had fewer levers for enhancing team performance than PacBell. We also found mixed results for the team performance outcome. Although an EI context influenced team performance at both companies, team characteristics and task design also influenced team performance in the PacBell study (as assessed by the team). This difference may be due to our use of a narrower measure of performance, namely, team productivity, in the AAL study. The final two dimensions of effectiveness were specific to each of the samples, so we cannot make ready comparisons across the two studies.

Overall, the results suggest some caution about the benefits of SMWTs. SMWTs are not the solution for all organizational problems. We found that they can have positive impacts on some organizational outcomes, but that they do not necessarily improve all organizational outcomes simultaneously. Trade-offs are common. This makes intuitive sense, but differs from what the literature on SMWTs appears to promise. In the following sections, we discuss some of the implications of these findings for researchers and practitioners.

IMPLICATIONS FOR RESEARCHERS

Our findings suggest that the promise of SMWTs may be oversold in the literature. Trade-offs between the success factors are common, and the dimensions of SMWT effectiveness do not necessarily reinforce one another. Overselling the benefits of different human resource processes is a common problem in the organizational studies literature. For example, Hackman and Oldham (1980) suggest that their dimensions of job design can simultaneously achieve better employee QWL, enhanced performance, improved quality, and lower turnover and absenteeism. Similar to this, Cummings and Worley (1993) suggest that processes of organizational development can simultaneously "help organizations achieve greater effectiveness, including improved quality of life, increased productivity, and improved product and service quality" (p. 1). Likewise, Dean and Bowen (1994), in a special issue of the Academy of Management Review on total quality management (TQM), emphasized that TQM practices can achieve an enhanced customer focus, continuous improvement/efficiency, teamwork, and employee loyalty. The list goes on. Although each of these bodies of research implicitly recognizes the inherent trade-offs and contingencies, few make the trade-offs and contingencies an explicit focus of their research. Recently, however, two researchers have done just that: Meyer and Gupta (1995) provide some convincing evidence that most common measures of organizational performance tend not to be correlated with one another. They call this a paradox of performance. We believe that the literature on SMWTs can gain from a deeper understanding of this performance paradox. Our research provides a step in this direction by making explicit some of the trade-offs inherent to the use of SMWTs in a service context.

Our research also supports a systems perspective on SMWT effectiveness. The importance of the EI context as a success factor for SMWTs suggests that organizational-level factors are critical for team success. This finding is consistent with the work of Tesluk, Vance, and Mathieu (1994) who found, in their study of a state department of transportation, that higher-level district managers determined the participative climate and the systems and practices to support EI, which in turn influenced beliefs and practices at both the team and individual levels. This finding also provides empirical support for the connection between Lawler's (1986) concept of EI and the effectiveness of SMWTs.

Our research also contributes to the literature on service quality as well. Contrary to prior work on banks by Schneider and Bowen (1993, 1995), we found no significant relationship between employee QWL and customer satisfaction at AAL. Our findings are more consistent with research by Sutton and Rafaeli (1988), who found no particular relationship between employee QWL and customer satisfaction in a different service context—convenience stores. In that context, customers did not care whether employees were friendly or displayed positive emotions. Instead, they cared most about the efficiency and competence of the service provider. Customers cared only whether the employee could solve their problems promptly with few costs. Our finding that increased technical training in the insurance division at AAL resulted in enhanced customer satisfaction is consistent with this pattern of results. Field agents cared about whether the team members were competent in providing correct answers quickly.

This mixed pattern of results suggests that different customers want different things. Where some customers may want a close relationship with employees, others may desire efficiency above all else. Some customers may want both efficiency and closeness, but at different points in time (perhaps efficiency when time is of the essence and a close relationship when the customer has a special need). A key issue for future research will be to flesh out the contingencies influencing the relationship between employee QWL and customer satisfaction. For example, are there contextual contingencies? Industry differences? Cultural differences? Personality differences? Once we can identify the contingencies, additional research must then focus on how to facilitate different team member behaviors in different situations. For example, what is the role of reward systems? What sorts of team member characteristics should be targeted when composing teams? In short, a focus on the trade-offs and contingencies of SMWTs for effective customer service is a fertile area for future exploration.

IMPLICATIONS FOR PRACTICE

These findings suggest some important implications for practitioners interested in designing effective SMWTs in service companies. Most important is the need to focus on enhancing the EI context of SMWTs. We explore this finding in detail because the effect of an EI context has received minimal attention in the literature on SMWTs.

An EI context may play a critical role in service companies because of the nature of the work performed. The service task typically reflects nonroutine information processing. Whether a claims processor is analyzing data to assess whether to pay an insurance claim, or a telephone repair person is checking computer circuitry to pinpoint a problem, information needs to be analyzed and judgments must be made. Knowledgeable, informed, and motivated employees are in the best position to exercise good judgment. Organizations can create the conditions for employees to exercise good judgment by providing team members with the power to influence decisions, performance feedback, training in interpersonal and technical skills, and rewards linked to business results. These are the key ingredients of a high-involvement organization. When work is of a more routine nature, as in many manufacturing contexts, an EI context may not be as critical for the success of SMWTs.

An EI context for SMWTs in service organizations may also be important for another reason. Providing service to customers is less tangible than producing a product. Thus, the interactions that occur between employees and customers help to shape perceptions of service quality. The degree to which a telephone customer sales representative understands the client's needs influences the customers' assessment of service quality. The boundaries between the internal operations of the organization and service delivery are more permeable than organizations that produce products. Because of this permeability of the boundaries between the organization and customers in a service context, an EI context can shape service quality more directly. Schneider and Bowen (1995) provide support for this assertion in their work, revealing that service organizations with progressive human resource practices (that is, practices that supported EI) provided superior customer service.

In addition to building an EI context, practitioners also need to reconsider the role of the supervisor of SMWTs. Despite all the attention being paid to coaching behaviors in the SMWT literature, our research suggests that team coaching may be overrated. The leaders' coaching behaviors did not positively influence team performance. Nevertheless, there may be another important role for leaders of SMWTs—a design role focused on facilitating the other three success factors previously discussed (Wageman, 1997).

Leaders can help to create a team with sufficient knowledge and skills, membership stability, and performance-enhancing norms. Leaders can also make sure that work is designed for teams. Team members will feel ownership and be motivated to perform well if they have responsibility for providing a whole service, or at the very least, an identifiable part of that service. Team leaders can also ensure that team members have collective goals for which they are mutually accountable. Finally, team leaders can influence the design of EI practices to ensure that they support effective teamwork. More specifically, the leader has a key role in providing team members with necessary training and resources. The leader needs to make sure that the systems are in place to provide performance feedback. The team leader also needs to work with upper-level managers and human resources to create a team-based, performance-contingent reward system. Thus, rather than managing the day-to-day functioning of the team, the more effective role for the team leader may be in terms of its design.

The differential influence of success factors on the dimensions of effectiveness also has implications for practitioners of SMWTs. Practitioners may need to simultaneously work on multiple success factors in order to achieve all the dimensions of SMWT effectiveness. Alternatively, practitioners might carefully target a specific dimension of effectiveness and then focus on success factors that predict that dimension. For example, if absenteeism increasingly becomes a problem in the telephone company, time would be better spent on helping teams develop norms to support self-regulation than to engage the teams in task redesign or provide closer team leadership. Practitioners cannot assume that the same success factors will contribute to all desired outcomes.

Finally, many practitioners value employee QWL because of its assumed impacts on team performance. The lack of relationships between QWL and team performance across the two studies suggests that QWL is not a means to an end (that is, performance), as is implied in the literature on the management of service employees. Instead, employee QWL is an end in itself. Thus, practitioners cannot rationalize investing in employee QWL for the sake of performance results alone. Rather, practitioners must decide whether to invest in employee QWL because they think it is the right thing to do in managing the human resources of the organization. This creates a moral challenge for companies. This moral challenge contrasts with the trend in current organizations to overemphasize the owner and customer dimensions of organizational effectiveness while de-emphasizing the employee dimension. In the face of unprecedented levels of corporate downsizing and cost cutting, unless organizations see an unambiguous and immediate link to performance, we question whether many corporations will make the investment needed to enhance the QWL of their employees.

NOTE

1. In past work using LISREL, researchers who were attempting to model relationships among a large number of latent variables found it difficult to fit such models to predictions with even strong theoretical support (Niehoff & Moorman, 1993). Therefore, we needed to decrease the number of latent variables or measures in the model (Jöreskog & Sörbom, 1989). Reducing the number of indicators is necessary because structural analysis using LISREL requires approximately five cases for each free parameter in the model (Bagozzi & Yi, 1988). Due to a large number of predictors and the relatively limited sample size, we followed a multiple-step approach to the analyses. Following the recommendation of Niehoff and Moorman (1993), we first employed confirmatory factor analysis (CFA) to assess the validity of the scales assessing the key success independent variables. Then, given adequate validity of those measures, we reduced the number of indicators in the model by creating an index representing each of the key success factors. For example, a group-characteristics index was created from its five scales: stability, norms, coordination and caring, expertise, and innovation. Creating an index for each key success factor was also important given the multicolinearity among the scales representing the different elements of the key success factors. For example, the five different elements of the work group design were moderately correlated with each other. These index measures were then used in the structural equations modeling for examining the second research question. This process allowed us to reduce the number of variables so that a LISREL structural model could be estimated. More information on the analyses used to create the indexes for the key successful factors is provided in Cohen, Ledford, and Spreitzer (1996).

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