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UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

AN ANALYSIS ON THE EFFECTS OF TEAMWORK TRAINING ON THE  
PROFICIENCY OF HIGH PERFORMANCE TEAMS IN THE INTERNATIONAL  
EXHIBIT INDUSTRY

A Dissertation

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

Doctor of Education

By

LAJOYCE CHATWELL LAWTON

Norman, Oklahoma

2000

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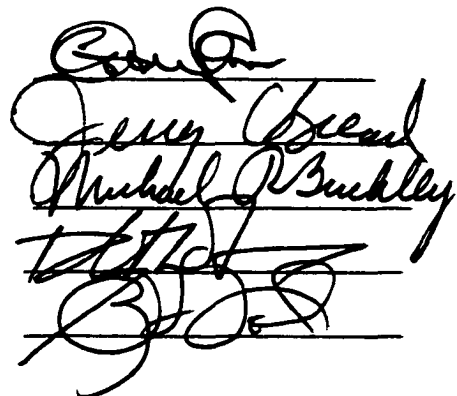
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AN ANALYSIS ON THE EFFECTS OF TEAMWORK TRAINING ON THE  
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EXHIBIT INDUSTRY

A Dissertation APPROVED FOR THE DEPARTMENT OF  
EDUCATIONAL LEADERSHIP AND POLICY STUDIES

BY

  
The image shows four handwritten signatures stacked vertically. The first signature is 'Sam Q'. The second signature is 'Judy C. Deal'. The third signature is 'Michael P. Buckley'. The fourth signature is 'B. J. S.'.

## ACKNOWLEDGEMENTS

In memory of Lois Holley Chatwell  
What happens to a dream deferred?

With gratitude to Billy Lawton  
Who supported my endeavors in every way.

Thank you  
Dee Silfies  
Susan Haasis  
Phil Pirkle  
Lea Conkright  
Diane De Sa

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## ABSTRACT

This study explores the relationship between teamwork training and levels of proficiency at teamwork skill/knowledge areas. Each area listed specific examples for participants to indicate the level of proficiency (1-not at all through 5-very) they felt their teams achieved in various areas. The teamwork skills/knowledge areas were understanding teamwork, group interaction (two parts), interpersonal skills, managing the team's work, teams in context with overall business goals.

Participants were asked about the prevalence of teams and teamwork training within their organizations. They ranked their preferred delivery methods of teamwork training and indicated their roles in teams and teamwork training within their organizations.

Two important conclusions were drawn from the findings of the research performed for this study. First, teamwork training has an important role to play in the development of teamwork proficiency within an organization. Second, some teamwork activities, more so than others, are susceptible to the use of teamwork training to develop proficiency. Organizations, thus, should design teamwork training around those activities positively affected by teamwork training, rather than those which appear to be affected by experience. This strategy is likely to produce the best outcomes in the most timely, cost effective manner.

## Chapter 1

### INTRODUCTION

#### Introductory Statement

High-performance work practices in the late-1990s increasingly are a focus of management attention. Organizing workers into self-managed work teams (SMWTs) is an important component of most high-performance management systems. According to Batt, (1996)

"Two decades of research in organizational behavior provides considerable evidence that workers in self-managed teams enjoy greater autonomy and discretion, and this effect translates into intrinsic rewards and job satisfaction; teams also outperform traditionally supervised groups in the majority of empirical studies" (p. 340).

Focusing on both performance and the teams that deliver it will materially increase top management's prospects of leading their companies to become high performance organizations. The dynamics that drive teams mirror the behaviors and values necessary to the high performance organizations (Katzenbach & Smith, 1993).

#### Statement of the Problem

By 1994, 91% of Fortune 1000 companies reported that they use some form of work teams (Dee, 1995 v1). The increasing globalization of economic activity is leading to increased demands for accomplishment of tasks through a team-based organizational structure wherein team members are not only widely separated physically but frequently are

located in different countries from one another. In effect, these high-performance teams are virtual teams (Lipkack & Stamps, 1997). While virtual teams are new to many organizations, the concept is not new. The need for such virtual team-based collaboration was the strongest motivation for the original development of the Internet (Gromov, 1997). Power shifts must also occur. Increasingly, project teams are being formed with informal leadership in which no one member is appointed as leader (Bass, 1990). Zenger, Musselwhite, Hurson and Perrin, authors of *Leading Teams*, emphasize that at some point in the team's evolution, team leaders must turn over some power to keep the team's high performance engines running at top speed. Numerous organizational leaders see the need for this shift in day-to-day responsibility. Ron Dean, Spectra Physics trainer, states "You have to change many things you're personally doing. You must give up some power." Mike Boyle, manager at Kenworth Trucks, feels he exemplifies leadership skills more by delegating. Dean Olmstead, University of Alberta Hospitals increased workload gives him no choice but to delegate. Leadership responsibilities don't disappear when self-directed work teams emerge. They're transferred over time (Dee, 1995).

Organizations are confronted with the need to develop high-performance teams and with the need to assure that such

teams are productive. One school of thought holds that training is the key to the productivity of high-performance teams (Pfeffer, 1998).

While the logic of training members of high-performance teams appears to be sound, empirical research substantiating this logic is scarce. The reason for this scarcity of scientific research is twofold. The application of the virtual team concept outside of high-level scientific circles is a relatively new phenomenon (Solomon, 1995). Many organizations tend to be reluctant to expend heavily on training, as on any other activity, unless the probability of an acceptable return on the investment can be demonstrated.

Maintaining high performance levels of productivity takes special skills and hard work. Training ensures the skills and techniques teams need to perform at this level (Dee, 1995 v3).

When Toyota Motor Manufacturing (TMM) opened its Georgetown Kentucky Camry plant in 1988, only 1% of its 4000 member workforce had automotive industry experience. Today, a Camry rolls off the production line every 57 seconds. TMM credits training and teamwork as the keys to its success. TMM's objective was to make its employees competent at team, interpersonal, and technical skills. The "Kentucky Camry" quickly became a top seller, but relentless training continues. Allen and Beakes, the training program developers, summarize the experience by saying, "Training is

an integral part of everyone's job". (Dee, 1995 v3)  
Training and learning can benefit high performance teams. All high performance teams are expected to learn as they perform. Additional training, however, can cause the performance of high performance teams to be more effective and to reach optimum levels of effectiveness more quickly (Katzenbach & Smith, 1993).

In Collins' study, a member of a high performance team who was a catalyst in solving the team's problem had a sixth grade education. Formal education may not be a success factor for the development of high performance teams, but training is.

Several authors address high performance teams in the literature. They address the characteristics, their effects on organizations, creating them, and how management can nurture and support them. Of the 46 citations in the business database, most are case studies of various sorts. Very few are scientific studies. A sampling of these "case studies" follows. The need for training is a common denominator in many of the articles.

The development of high performance teams takes the combined efforts of a visionary leader, willing and competent team members and a facilitator with expertise in team building. A high performance team may be characterized as follows (Blinn, 1996):

1. It has a common focus, including a clear mission (purpose), vision (picture of success), goals, action plans and success measures.
2. It has clearly defined roles and responsibilities for team members.
3. Members have clearly defined expectations of one another.
4. It utilizes all its resources, both within the team and externally.

Companies have a role in supporting high performance teams (Ehlen,1994). Often a company's infrastructure fosters internal competition which limits team effectiveness. The inability to deal with conflicts, stay focused, or have productive meetings also prevents teams from functioning smoothly. When these corporate processes are improved, teams can move from neutral to high gear.

To help managers become successful in supporting high performance teams, Wilson Learning developed the following five critical steps:

1. Build shared responsibility
2. Develop vision alignment
3. Provide individual development
4. Encourage mutual influence
5. Build task autonomy

High performance teams are producing increases in productivity and employee satisfaction. A high performance team is an energetic group of people who are committed to achieving common goals, who work well together and enjoy doing so, and who produce high quality, planned results. High performance teams have clear goals, clear roles, team

based incentives, and clear procedures (GRIP) (Pittman, 1994).

Organizational investments in high performance teams include (Collins, 1995):

1. Demonstrating and encouraging risk taking
2. Giving them the freedom to fail
3. Fostering hands on team learning
4. Providing training and skills development
5. Ensuring human and physical resources
6. Initiating recognition systems and financial support
7. Assigning someone to support their activities

Collins further goes on to describe the characteristics of said high performance teams.

1. They exhibit behaviors similar to those of a newly converted member of a religion or an elite organization.
2. They have significant organizational support and in turn, strongly support the organization.
3. They are the in-house change agents and continually shift the way business is done.
4. They have tremendous influence both inside and outside the organization.
5. They are the primary vehicle for involvement and leadership for those populations who may be under represented in many organizations.

Prerequisites and enablers that need to be in place before a research team can even start moving toward high performance were established by the Industrial Research Institute's Human Resources Directors' Network (Wolff, 1993). After examining several cases of successful teamwork among R&D groups at their respective companies, twelve directors from Chevron, Henkel, Monsanto, Shering-Plough and others reached the following conclusions.

The prerequisites are:

1. The larger organization must feel some kind of business pressure that produces a reason for change
2. Someone must emerge who sees the need for change and is able to convince the others of that need.
3. The organization must be flexible.
4. A majority of the people who will be called upon to form the team must actually want to be on that team.
5. Management must be willing to change.

The enablers of success include:

1. Training
2. Individual members taking ownership of all the teams goals
3. Team allocation of the work and the resources for doing the work
4. Involving the team in allocating the rewards

There are several essential characteristics required for an effective high performance team. These essential elements are as follows (Katzenbach & Smith, 1993):

1. Shared Vision
2. Time-Oriented
3. Communication
4. Quality Reviews
5. Full Participation
6. Self-Direction

High performance teams have been identified in studies conducted by Katzenbach & Smith, Vaill, Collins and Wilson Learning. Appendix B of *The Wisdom of Teams* by Katzenbach & Smith is a chart with the 47 companies they researched listing their "performance above all expectation" results. In Peter Vaill's book, *Leadship: Where Else Can We Go?*, he speaks of 48 factors which characterized high performance



systems and teams. *The High Performance Team Series*, published by Dartnell (three volumes) profiles numerous companies. In *First Team*, Dartnell's first volume, Mary Ellen Collins writes of three work teams selected from a field of eighteen semi-finalist honored by the Association of Quality and Participation (AQP) for outstanding contributions to their organizations (Dee, 1995). Wilson Learning conducted a study of 4500 hundred teams in more than 500 corporations. Of these studies, very few met the criteria for high performance i.e. Katzenbach & Smith -4, Collins -3.

Teams are not a panacea. They are not the all-purpose answer to handling every performance challenge. Managers must consider teams in balance with strategy, individual assignments, corporate structure, and management support (Katzenbach & Smith, 1993). If paternalism, opportunism, or shifts occur, then teams may not be the best solution.

Team leaders can be opportunistic or paternalistic. In Mouton & Blake's Managerial Grid, Team Leadership(9.9) is advocated (Bass, 1990). This leadership is attained by behavioral science principles that involve participation, openness, trust, respect, involvement, commitment, open confrontation to resolve conflicts, consensus, the synergistic utilization of the human resources represented by the leader and followers, mutually determined management

by objectives, mutual support, and change and development through feedback (Bass, 1990). This style can take the form of paternalism if the leader fails to integrate the concerns of production and people and the two are kept in logic tight compartments. They care as fathers (or mothers) for dependent subordinates from whom they expect unconditional loyalty. Opportunistic leaders use several styles interchangeably, perhaps even during one meeting, depending on the persons with whom they are dealing (Bass, 1990).

Team members can exhibit risky, cautious or choice shifts. Choice shift refers to any difference between individual team members' decisions before discussion and either the team's decision or individual member's decisions after discussion. Risky shift is a shift toward riskier decisions, while cautious shift is toward more cautious decisions. Polarization is a shift away from a central or neutral point toward the initial prevailing tendency of the members (Butler & Crino, 1992). Risky shift, sometimes called group polarization, refers to the tendency of a person who has made a decision to shift from his or her original position after discussing the matter with a team member. Risky shift can influence a wide variety of attitudes and behaviors (Bateman et al, 1987). These shifts are nonproductive behaviors that can occur during team meetings.

Although teams are not the panacea, teams do perform better than individuals, therefore, are perceived to be the primary building block of performance in the high performance organization of the future.

Finally, we must stop labeling all teams as high performance before all teams are equalized into mediocrity. Let's celebrate the successes of the few teams that develop into high performance and provide motivation for successful teams to take their next steps toward high performance (Collins, 1995).

### Study Purpose

The purpose of the proposed study will be to assess whether teamwork training is associated with the proficiency of such teams. The nature of the training envisioned encompasses the functions of high-performance teams. Proficiency will be examined in the context of teamwork skills/knowledge categories, i.e. understanding team-work, group interaction, interpersonal skills, managing the team's work and teams in context with overall business goals. Participants will rate their proficiency from a list of specific examples within each of said categories. The audience for this study is practitioners who train teams. Is there a relationship between teamwork training and proficiency in teamwork skills/knowledge categories? If so, what kind of training? If not training, then what?

The population will be chosen from the international exhibit industry because each time a company makes a decision to exhibit, a team is formed which is expected to meet or exceed expectations. Expectations may be talking with a predetermined number of qualified leads, selling a predetermined amount of product to prospects/clients seen at the show, etc. These are companies who use the team concept and expect high performance. By communicating with the Center for Exhibit Industry Research (CEIR) and visiting their website, it's evident that there is also a dearth of scientific research regarding team training for global exhibitors. There are four studies on global exhibiting, none of which address teams. Since the mid 1990's, both exhibit industry conferences have had international tracks, and the number of international participants continues to grow.

### Research Questions

Five research questions will be investigated through the conduct of the proposed study. These research questions are as follows:

1. Is teamwork training associated with understanding teamwork proficiency levels among teams?
2. Is teamwork training associated with group interaction proficiency levels among teams?

3. Is teamwork training associated with the interpersonal skills proficiency levels among teams?
4. Is teamwork training associated with managing the team's work proficiency levels among teams?
5. Is teamwork training associated with teams in context with overall business goals proficiency levels among teams?

#### Definition of Terms

1. A team is a small number of people with complimentary skills who are committed to a common purpose, performance goals and approach for which they hold themselves mutually accountable (Katzenbach & Smith, 1993).
2. High-performance teams are self-managed, cross-functional teams that are chartered with the responsibility to complete a task of crucial importance to the chartering organization (Delery, & Doty, 1996). High performance teams perform above all expectations and share special, strong commitments among members (Katzenbach & Smith, 1993). The high-performance team is a hybrid of the self-managed team and the virtual team that incorporates the characteristics and concepts of both of these team types (Lewis, 1998).

3. Teamwork skills/knowledge areas include understanding teamwork, group interaction, interpersonal skills, managing the team's work and teams in context with overall business goals. Within each skill, there are specific examples which will be analyzed for proficiency.
4. A virtual team transcends distance, time, and organizational boundaries. There is no requirement for members of virtual teams to be co-located (Lipnack & Stamps, 1997).
5. A virtual corporation is based on the concept of the virtual product or virtual service that is produced instantly on response to customer demand. There is a continually changing interface among the company, suppliers, and customers (Davidow & Malone, 1992).
6. International exhibitors have been identified in a previous study conducted by Exhibitor Magazine as those who currently participate in trade shows globally.
7. Exhibit teams are organized for each trade show and may include booth designers, builders, booth staff, trainers, evaluators, managers.

## Overview of the Study

A review of the literature relevant to the study problem is presented in the following chapter. The methodology that will be followed in the conduct of the proposed study is presented in Chapter 3. The results of the research performed for the proposed study will be presented in Chapter 4. A summary of the study and its major findings, conclusions drawn from those findings, and recommendations based on the study findings and conclusions will be presented in the final chapter of the study.

## Chapter 2

### REVIEW OF LITERATURE

#### Introduction

Literature related to teams, teamwork training and teamwork skills/knowledge areas will be reviewed.

First, teams in general will be discussed. Contemporary team-based activities involve human interactions in socio-technical systems (STS). The team-based concept and team functioning are associated with organizational structure within organizations. Thus, literature relevant to organizational structure is reviewed, as is literature relevant to the STS concept. Reviewed also is literature relevant to organizational culture and empowerment, each of which is related to team-based functioning in organizations.

Team concepts are reviewed in two contexts. The first is the virtual team, while the second is the high-performance team.

Finally, teamwork training (independent variable) and teams in context with overall business goals (a representative dependent variable) will be discussed.

#### Organizational Culture

An important organizational concept (one which influences the functioning of other organizational concepts) is organizational culture (Ford & Randolph, 1992). Culture



is a concept that has been borrowed from anthropology and increasingly used in the study of organizations.

An organizational culture "is the environment of beliefs, customs, knowledge, practices, and the conventional behavior of a particular social group. Every organization, every corporation has its distinct character" (Cleland, 1988, p. 49). Organizational culture is important because it unites individuals with a purpose under a "set of principles and standards to live and work by. It exists at all levels of the organization and is shaped by its various subcultures, as well as by the society in which it exists" (Cleland, 1988, p. 50). Certain organizational cultures are more receptive to different approaches to leadership than are others. Organizational cultures characterized by a rigid bureaucracy, minimal inter-departmental interaction, strong vertical reporting lines, and little tradition of change are not very receptive to transformational leadership. In fact, unless the culture can be changed, resistance or open hostility to transformational (absolute; nothing left unchanged) leadership may occur. Organizations with a tradition of openness and change are more suited for transformational leadership.

#### Empowerment

Associated with organizational culture is the way in which ambiguity in authority and responsibility have been clarified by the organization. A clear definition of

organizational roles causes an organization to be more suitable for transactional (piece by piece; a little here and there) leadership. "If roles are not clearly defined, the organization invites unnecessary and unproductive conflict due to the resulting ambiguity" (Ford & Randolph, 1992, p. 281).

Empowering employees is often a principal component of management and organizational effectiveness. Organizational productivity increases when power and control are shared with subordinates, and empowerment plays a crucial role in group development and maintenance. Empowerment refers to either psychological empowerment, which focuses primarily on an individual's self-efficacy, or to organizational empowerment, which focuses primarily on shared power in the organizational structure and decision-making processes within the organization. Psychological empowerment is essential for organizational empowerment to be effective (Ford & Randolph, 1992).

Empowerment is a motivational process whereby employee's self-efficacy is increased, enabling the employee to perform work more effectively. Empowerment also has task meaning, self-determination, and impact. Thus, empowerment may be defined as "increased intrinsic task motivation manifested in a set of four cognitions (meaning, competence, self-determination, and impact) reflecting an individual's orientation to his or her work role" (Speitzer, 1995, p. 1443). Meaning is the value of a work goal or

purpose, judged in relation to an individual's own ideals or standards; it involves a fit between the requirements of a work role and beliefs, values, and behaviors. When measuring empowerment, meaning may be defined as (1) The work I do is very important to me; (2) My job activities are personally meaningful to me; and (3) The work I do is meaningful to me. Competence, or self-efficacy, is an individual's belief in his or her capability to perform activities with skill. Competence is analogous to agency beliefs, personal mastery, or effort performance expectancy. This dimension is labeled competence here rather than self esteem because the focus is efficacy specific to a work role rather than global efficacy. When measuring empowerment, competence is described as (1) I am competent about my ability to do my job; (2) I am self assured about my capabilities to perform my work activities; and (3) I have mastered the skills necessary for my job. When competence is a mastery of behavior, self-determination is an individual's sense of having a choice in initiating and regulating actions. Self-determination reflects autonomy in the initiation and continuation of work behaviors and processes, i.e. making decisions about work methods, pace, and effort. When measuring empowerment, self-determination is defined as (1) I have significant autonomy in determining how I do my job; (2) I can decide on how to go about doing my work; and (3) I have considerable opportunity for independence and freedom in how I do my job. Impact is the

degree to which an individual can influence strategic, administrative, or operating outcomes at work. Further, impact is different from locus of control, whereas impact is influenced by the work context, internal locus of control is a global personality characteristic that endures across situations. When measuring empowerment, impact is defined as (1) My impact on what happens in my department is large; (2) I have a great deal of control over what happens in my department; and (3) I have significant influence over what happens in my department. In summary, psychological empowerment is defined as a motivational construct manifested in four cognitions which are argued to combine additively to create the overall construct (Spretizer, 1995).

Empowerment has been found to be positively correlated with outcomes of performance, customer satisfaction, organizational commitment, satisfaction with supervisors, and satisfaction with work. Further, empowerment has been found to be correlated significantly with innovative behavior and managerial effectiveness, both of which are necessary for an organization to succeed in dynamic environments.

Ken Kenitzer, then Vice President of Compression Labs, Inc., said his finest hour was using his power to enable others to act. The company was extremely successful but had a stubborn problem. About 10% of all its orders were sent from the loading dock with one sort of defect or another,

i.e. wrong material, wrong size containers, too much or too little merchandise. Crackdowns brought only a month or two of improvements. Finally, an enterprising executive tried a new approach. He knew that in most companies the loading dock team is, at best, lightly regarded. He bet that if the low status of the loading dock worker were turned around, greater productivity would follow. Each member of his team, he decided, would be a manager responsible for his own accounts. Based on account lists, he would be responsible for any orders going out to his customer. Suddenly every shipment that went out had a sponsor on the dock. Subsequently, every manager cared very much that his order went out without flaw. Within 90 days, the error rate dropped to two percent and has stayed there - or lower- ever since. By empowering the loading dock team, this company executive enabled others to act (Kouzes & Posner, 1987).

### Organizational Structure

The success of any organization depends largely upon the performance of its employees. Performance levels, in turn, depend largely on the perceived job satisfaction of an organization's employees. Team-based organization is a strategy that leads to higher levels of perceived job satisfaction (Ehin, 1993).

Team-based organization is held to lead to improved levels of job satisfaction (Ross, 1994). Team-based organization is one manifestation of organizational

structure. Two primary classifications of organizational structure are mechanistic and organic. The differences between mechanistic and organic organizational structures are expressed in the context of the level of formal structure and control embodied in the two organizational concepts. The character of an organization's internal structure is often related to the external environment within which it functions. In this context, organizations must strike a balance between openness to the external environment and protection from too much permeability. Organizations functioning within a stable external environment typically have formal internal organizational structures with clearly established and observed operating procedures and rules, and a well-defined hierarchy of authority. Within such organizations, decision-making is typically top-down in character. This type of organizational structure is mechanistic in character. Organizations functioning within a dynamic external environment frequently are chaotic in character—defined as "much looser, free flowing, and adaptive" (Daft, 1997, p. 71). Rules and regulations are not written down, or if written down, are frequently ignored. People have to find their own way through the system to figure out what to do. The hierarchy of authority is not clear. Decision-making authority is decentralized. Such internal organizational structures are organic in character.

One contention is that the organic organizational structure is associated with change and that such a structure is preferable when functioning within a dynamic external environment. Researchers also tend to think that innovation is fostered by an organic organizational structure, while innovation tends to be stifled by a mechanistic organizational structure. Researchers have also observed, however, that, while organic structures tend to foster innovation, they are often somewhat ineffective for the implementation of that innovation. In such instances, it has been suggested that organizations adopt a composite organizational structure that incorporates characteristics of both the organic and the mechanistic organizational concepts. This ambidextrous organizational structure permits a shifting emphasis as required (Daft, 1997).

Team-based organization is another form of structure "in which members of different functional departments work together in small, but more or less permanent, teams headed by the member from the most professional prestigious specialty" (Gortner, Mahler, & Nicholson, 1995, p. 111). Team members "maintain their ties to functional departments for personnel, training, promotion, and other such matters, but they work face to face principally with members of other departments to achieve the level of coordinated expertise demanded by their tasks" (Gortner, Mahler, & Nicholson, 1995, p. 111). Team-development promotes the idea that individuals who have working relationships with one another

within an organizational structure can be trained to work as a team. Participants in a team building process learn to build good relationships with other team members, to engage in joint problem solving, and to reduce interpersonal friction (Larson & LaFasto, 1994).

Successful implementation and execution of the team development technique leads to improved communication, enhanced creativity, more effective decision-making, and higher levels of organizational performance (Larson & LaFasto, 1994). One of the most important manifestations of the team organization decision-making technique is the quality circles concept that was pioneered in Japanese manufacturing organizations, and which in the 1990s, is found in a number of major American organizations. Most organizational structures are product/process- or functional-based. Mixed organizational structures, however, have long been common. The hybrid organizational structure attempts to combine the advantages of both product/process-based and functional-based structures "while avoiding the weaknesses of each" (Gortner, Mahler, & Nicholson, 1995, p. 110). The matrix organizational structure groups staff into functional areas, with temporary assignments to special project groups, or teams. Such special project teams are multi-functional in character. This approach to the team concept "produces a matrix in which the columns represent projects and the rows represent functional departments" (Gortner, Mahler, & Nicholson, 1995, p. 110). The matrix is



"a fairly complex form of organization and is generally both costly and time consuming to administer because of all of the crosscutting of lines of authority and accountability that must be coordinated" (Gortner, Mahler, & LaFasto, 1995, p. 110).

The self-directed or self-managing work team (SMWT), the latest manifestation of the team-based organizational structure, places such matters as personnel, training, and promotion in the hands of the team, causing the team, in effect, to become almost a separate company within a company. The SMWT is a high performance work team. The self-managed work team tends to affect three aspects of organizational structure. The affected aspects of structure are lines of managerial authority within an organization, responsibility and accountability within the organization, and the informal organization within the organizational structure. The development of an effective team-based organization depends on the addressing of issues related to each of these characteristics of an organization (Gerber, 1994).

Strong leadership is necessary for the effective functioning of SMWTs. Such leadership is essential if SMWTs are to hire, train, and assign new employees; determine work schedules; provide instruction in various skills; and make decisions related to bonus compensation and employee terminations (Barton, 1991).

To foster strong leadership in SMWTs, organizational management must relinquish control over details, concrete problems, and day-to-day activities. Organizational management then devotes its energies to broader responsibilities, such as planning, and providing direction and support for SMWTs. Within such an environment, management retains authority over strategy, while the SMWTs assumes authority for tactics within a framework of goals established by management. Responsibility and accountability are major issues affecting the effectiveness and acceptability of SMWTs. Without clear lines of responsibility and authority, work teams are not truly self-managing, nor are they ever likely to be fully accepted within the organization. Rather, they simply become a manifestation of the latest management fad (Barton, 1991).

The informal organization within a firm reflects the patterns of activity through which the work of a firm is actually accomplished. Such informal organizations reflect a phenomenon in which natural hierarchies assert themselves whenever human beings organize to work (Galagan, 1992).

The creation or development of work teams within an organizational structure is, in essence, a reflection of the informal organization of the firm. When such work teams are voluntarily formed, they represent little departure from the traditional functioning of a firm's informal organization. When work teams are formally created by the firm, however, the organizational structure is changed as the informal

organization becomes a part of the formal structure (Banner, 1993).

### Socio-Technical Systems

The sociotechnical systems (STS) concept assumes that every organization is comprised of three sub-systems. The organization's human resources are the social sub-system, while the techniques and knowledge used by the organization are the technical sub-system, and the entities external to the organization (including customers) with which the organization interacts are the environmental sub-system. The STS concept posits that a change made in any one of the organizational sub-systems must meet the demands of each of the remaining sub-systems. STS analysis views an organization as an open, sociotechnical system, and considers all of the primary organizational sub-systems and their interactions. Team building alters an organization's social sub-system (Shani, Grant, Krishnan, & Thompson, 1992).

While the traditional focus of STS analysis is on work design, such analysis also includes the requirements of the environmental sub-system, organizational structure, and organizational strategy. STS analysis is primarily concerned with the introduction of new technologies into an organization. Within this context, compatibility between the new technical sub-system and the existing social system is sought. Such compatibility is attained through a

combination of "selecting new technologies which are most compatible with the existing social system, and changing the social system to accommodate the new technology" (Shani, Grant, Krishnan, & Thompson, 1992, p. 93). Simultaneously, the relationship between the new technology and the organization's environmental sub-system is redefined through an adjustment to the organization's overall strategy. The STS approach encourages a holistic perspective oriented towards an organization's long-term goals and objectives. In far too many instances of the introduction of new technologies into organizations since 1980, the non-technical ramifications associated with the implementation of such technologies has been either overlooked or underestimated (Larsen, O'Driscoll, & Humphries, 1991).

Informed opinion on the effectiveness of STS analysis is divided. Shani, Grant, Krishnan, and Thompson stated that while "STS theory lags behind practice, studies of STS redesign efforts show that such changes have increased productivity through better utilization of human resources and capital equipment, and have enhanced the quality of working life" (Shani, Grant, Krishnan, & Thompson, 1992. p. 93). Both workers and managers have been reluctant to introduce the STS approach to organizational design despite the fact that such introduction would be beneficial to both. Critics contend that the STS approach lacks conceptual substance, so it is unable to maintain a consistent direction or application. To meet with success, according

to these critics, the STS approach must place human needs over technology, while at the same time persuading management that the benefits of the STS approach are greater than those of other alternatives available to the organization. These same critics concluded that, unless STS proponents deal effectively with the internal inconsistencies, confusion, and contradiction within STS theory that have contributed to the problems encountered in the application of STS analysis, there is little hope that the STS approach will become acceptable to either workers or managers in the near future (Shani, Grant, Krishnan, & Thompspon, 1992).

The most "common application of STS analysis to organizational redesign has involved firms employing continuous process technologies" (Shani, Grant, Krishnan, & Thompspon, 1992, p. 93). TQM gurus Deeming and Durant explain continuous process technologies as analysis of any processes in organizations. Continuous and constant improvement involve both engineering and attitude.

Autonomous work teams are sociotechnical systems. Contemporary information science technology makes it feasible to form autonomous work teams comprised of members of each functional area. These autonomous work teams, under such a technical sub-system, would make decisions independently of their functional area organizational superiors.

## Virtual Teams within the Concept of the Virtual Corporation

Global exhibiting makes excellent use of virtual teams within the virtual corporation concepts. A virtual team transcends distance, time and organizational boundaries. When a company decides to exhibit at Comdex in Hamburg, Germany, a team, including corporate management, booth builders and designers, sales and marketing, trainers and others, is assembled. A U.S. company may have their booth built in Germany and staffed with sales professionals from their affiliates around the globe. Ultimately, there is interaction among the company, suppliers, and customers.

The virtual corporation is based on the concept of the virtual product or virtual service that is produced instantly in response to customer demand. Davidow and Malone (1992) described the virtual corporation that produces such products as an organization that will have a continually changing interface among the company, suppliers, and customers. Within the virtual corporation, traditional offices, departments, and operating divisions will be continually reforming to meet the demands of a continually changing external environment. The virtual character of the virtual corporation typically is to be supported by an information network that gathers data on markets, customer needs, the latest product designs, and contemporary production methods, among other things (Davidow & Malone, 1992). Within this context, corporations are said to be

"evolving from manufacturers to orchestrators that harmonize their suppliers' work" (Bonk, 1996, p. 73).

The virtual corporation, thus, is a "legal-financial entity whose physical plant is scattered across the globe and whose people-parts are almost as interchangeable as chips in a computer motherboard" (Nash, 1994, p. 75). Goods and services are produced by a series of temporary global teams. Within the context of geography, the virtual corporation is limited only by the "reach of a telecommunications satellite," as a team of " 'intrapreneurs' and outsiders will be patched together for a particular project and then disbanded when their work is through. Employees will then recombine into new teams for the next venture" (Nash, 1994, p. 75).

Two important advantages of the virtual corporation concept are focus and specialization. These two factors tend to drive virtual corporations (Dell, 1998). Another advantage of the virtual corporation concept is the ability to reduce the cycle time of production, thereby enabling a corporation to place more new products on the market in a shorter amount of time (Bonk, 1996). Global competitiveness is forcing companies of all sizes to go to ever-greater lengths to improve customer satisfaction. Organizations that focus on cycle time as a productivity measure, can both decrease delivery time and improve quality, thereby creating a more satisfied customer. An organization's total business-cycle time is measured "from the time a customer's

need is identified to receipt of payment from that customer for the finished product" (Northey & Southway, 1993, p. 11).

Total business-cycle time within an organization includes any or all of the following sub-cycles or loops. The make/ship loop is the time from receipt of material, through the value-adding conversion steps, to shipment or transfer of a finished product to the distribution loop. The distribution loop is the time from finished production to shipment to the customer from the distribution warehouse. The supply loop is the time from release of the purchase order to stocking the correct materials in the right quantities at the right point in the manufacturing process. The new-product-introduction loop is the time from identification of the need for a new product to delivery of the first unit of product to a customer. The strategic-business-development loop is the time required to develop a new strategy, make the decision to adopt it, and then implement the strategy (Northey & Southway, 1993). Each of these loops is susceptible to improvement through the application of the virtual corporation concept.

Over the past decade, "it has become clear that the compartmentalization of these loops has inhibited competitiveness" (Northey & Southway, 1993, p. 12). All loops must be integrated if total business-cycle time is to be reduced. In the 1980s, most companies focused on the make/ship loop. Before 1980, high order backlogs in this



loop created a sense of complacency. "This complacency rippled through the distribution and supply loops as well" (Northey & Southway, 1993, p. 12). As long as customers tolerated the long wait, the system worked, because it enabled the manufacturing process to "minimize product cost" by using "economical" batch sizes (Northey & Southway, 1993, p. 11). This approach increased the total cycle time, but time was not perceived by most organizations as a critical issue. When customers began to demand shorter delivery times and were able to get them from competitors, problems arose for an organization.

"Sales departments responded to such competition by: (1) attempting to persuade the manufacturing function to commit to unrealistic delivery times, and as a result, sales departments soon discovered that they were constantly having to break promises to customers; (2) increasing factory orders for finished goods and distribution inventory, an action that placed even greater pressure on the manufacturing function" (Northey & Southway, 1993, p. 12).

As forecast periods were extended, the potential for error and disagreement increased. A double problem arose for those organizations whose competitors could deliver the correct product in a shorter cycle time. The shorter cycle time meant that competitors could produce at lower cost and did not require such large inventories. "Not only were the slower companies struggling to compete, but they were faced with margin problems caused by the higher costs of inventory and waste in the structure" (Northey & Southway, 1993, p. 11). The reaction of some manufacturers was to reduce

inventories. Competitors with shorter cycle times, however, continued to increase market share.

Companies then began to focus on the manufacturing cycle. To reduce cycle time, many organizations attempted to rely only on new technology. Technology is an expensive and often ineffective approach to cycle time reduction.

"The reality is that as many as 90% of the existing activities are nonessential and can be eliminated. As soon as manufacturers focused on processes, they could see the waste associated with changeovers, quality defects, process control, factory layout, machine downtime, and scheduling" (Northey & Southway, 1993, p. 12).

Organizations began to realize that they could reduce substantially the make/ship-loop cycle time. As the manufacturing cycle time started to decrease, it became apparent that the cycle time for processing a customer's purchase order was greater than the time it took to manufacture the product. This outcome "was not surprising because in the traditional environment of long manufacturing cycle time there is no incentive to rush the customer-order paperwork through" (Northey & Southway, 1993, p. 12).

The complexities associated with the distribution loop vary from business-to-business. The issue, however, "is not how many hands the order goes through, but what essential role these hands play in the process and how long the process takes. For example, distributors may not be providing timely sales information because they are using

the order-point method of signaling their needs. This can delay arrival of the information to the manufacturing process for several days" (Northey & Southway, 1993, p. 11).

"Although the supply loop is a significant contributor to the total business cycle time, most companies are powerless to force suppliers to reduce their cycle times" (Northey & Southway, 1993, p. 11). Only the largest companies, "have had enough clout to insist that their material be delivered 'just-in-time'" (Northey & Southway, 1993, p. 11). In such conditions, the "objective for most companies will be to ensure the stability of material deliveries by encouraging the supplier's efforts to improve quality" (Northey & Southway, 1993, p. 11).

Success in the contemporary and future periods for most organizations is dependent upon a reduction of new-product-introduction time. As product life cycles continue to decrease,

"the key to success will be to integrate (1) new-product strategies; (2) new-product research; (3) product development; and (4) launch activities into one effective short-cycle capability that can respond consistently to ever-increasing market demands" (Northey & Southway, 1993, p. 12).

Minimizing the new-product-introduction cycle time requires an organization to minimize cycle times in other loops, and to integrate the other loops with the new-product-introduction loop.

The strategic-business-development loop is "probably the most poorly managed of all loops" (Northey & Southway,

1993, p. 12). The reason for this situation is that organizational members responsible for the loop "do not fully understand the high financial returns to be gained from improving the loop's cycle time" (Northey & Southway, 1993, p. 12). "Too often, this loop is encumbered by size, politics, economics, and legal and financial inertia" (Northey & Southway, 1993, p. 12). To survive in contemporary and future environments, organizations must eliminate

"red tape and minimize the time required to make and execute decisions ... Those that cannot meet those demands will not make it into the next century. Unfortunately, many companies have not even started to reduce their total business-cycle times. The result is that not only are they denied short new-product-development and strategic-planning cycle times, but they are failing to meet rising customer expectations for shorter delivery times, higher quality, and wider product variety" (Northey & Southway, 1993, p. 12).

The only solution is integration of the supply, make/ship, and distribution loops into one short-cycle-time manufacturing loop, and then the further integration of these loops with the new-product-development and strategic-planning loops.

An important characteristic of the virtual corporation is the abandonment of the common practice of having alternative suppliers bid against one another, in favor of long-term commitments to a single supplier for a given component (Bonk, 1996). The Japanese keiretsu corporation

organizational concept has followed this approach to suppliers for decades.

The links that bind the partners in a Japanese virtual corporation have been characterized as

"rational effective systems, especially suited to the circumstances of Japan's industrialization, and as a factor in its economic success. On the other hand, they have been criticized as closed systems that exclude potential competitors" (Shimotani, 1995, p. 54).

While the Japanese virtual corporation provides an effective system of minimizing transaction costs, the United States in particular charges that the system excludes outside firms from markets and, more particularly, act as barriers to foreign firms attempting to enter the Japanese market. Thus, this view of some governments constitutes a disadvantage of the virtual corporation concept. How the United States may react to the growing virtual corporation acceptance at home is yet to be answered; however, the question of closing markets to competition is one which all corporations contemplating the application of the virtual corporation concept must consider seriously. In Japan, the keiretsu were a response to the intense competitive pressures which existed among Japanese firms. The keiretsu system, thus, resulted from corporate competition within the Japanese economy, and became established as a link between firms that was economically rational, and suited to Japanese-style management. Only as the Japanese economy grew and advanced globally, did the system of keiretsu

relationships began to be seen as an unfair barrier by other countries, notably the United States (Shimotani, 1995).

A disadvantage of the virtual corporation is that it will not offer employees job security. As a consequence, the virtual corporation will not engender employee loyalty, another major disadvantage of the virtual corporation concept (Nash, 1994).

The virtual corporation concept also will destroy the relationship between an organization and its community. As the virtual corporation will be spear-heading the race for the bottom goal, communities and even governments will have little to motivate them to support virtual corporations (Nash, 1994).

Gibbs and Keating (1995) contend, however, that the "signature feature of the virtual corporation's new control environment is that it is based on a relationship of trust, rather than on fear and suspicion. There is a fundamental assumption that business partners are operating for each other's mutual benefit. This can be a complex issue, in that the firms may work as business partners in some situations, while at other times they may compete directly with one another" (p. 47).

Boeing, Chrysler, Motorola, Hewlett-Packard, and Whirlpool are examples of corporations that apply the virtual corporation concept through the development of special relationships with suppliers for various goods and services in support of the production of specific aircraft models in the case of Boeing, automobiles in the case of Chrysler, various electronic products in the instances of Motorola and Hewlett-Packard, and household appliances in

the case of Whirlpool. Considering the case of Boeing, the virtual corporation network of suppliers tends to vary by aircraft model (Bonk, 1996).

Matsushita Electric is a Japanese virtual corporation that is structured as a keiretsu (Shimotani, 1995). The Japanese virtual corporation is characterized by a grouping of vertically linked firms. These links act as close, long-term business relationships between large corporations and a number of selected smaller firms.

"As a pioneer of distribution keiretsu, Matsushita ... grew in Japan by securing the outlet of its products at 'appropriate' prices, and is now its nation's largest electronics manufacturer. Its distribution structure was founded in the 1930s, but the changes introduced in the 1950s finally brought it substantial commercial advantages, and encouraged rivals to form similar networks" or virtual corporations (Shimotani, 1995, p. 54).

Virtual corporations tend to shield the true magnitude of their operations in some instances. As an example, the total annual sales of all of the virtual corporations established by the Wallenberg family of companies based in Sweden is in excess of US\$90 billion, making the Wallenberg virtual corporations considered together larger than British Petroleum, IBM, and General Electric (Richards, 1997).

Firms need not be mega-corporations and they need not operate globally to become effective virtual corporations. Super Bakery, Inc., a

"Pittsburgh-based donut maker, placed its bets on a series of innovative products, supported by equally innovative marketing and management methods. The company began by targeting baked goods offered on school lunch menus. ... By operating as a virtual corporation (outsourcing

selling, manufacturing, and distribution), the company greatly reduced overhead costs" (Davis & Darling, 1996, p. 86).

Super Bakery exceeded its 1995 sales target of \$10 million by achieving revenues of \$10.2 million.

"What is most impressive about these results is that the company surpassed the \$10 million mark with a staff of only 10 full-time employees. This indicates the very high level of productivity per employee that can be achieved in a virtual corporation" (Davis & Darling, 1996, p. 86).

Motorola, IBM, and Apple created a virtual corporation to develop and market the Power PC. This virtual corporation, in effect, was a joint venture arrangement which ended with the completion of the marketing of the Power PC. The Nike Corporation of Portland, Oregon, may be described as a virtual corporation to the extent that the company contracts-out its production to entrepreneurs in developing countries. Nike, however, continues to perform its own marketing and distribution, a fact that limits the company's characterization as a virtual corporation.

The term "virtual" derived from the computer industry term "virtual memory," which is temporary memory. The term "virtual" applies to teams in a similar way. When used with teams, the term virtual indicates that team members are not together in the same physical space. Virtual teams typically are cross-functional teams with members working jointly to solve an important organizational problem (George, 1996).



## High-Performance Teams

High-performance teams are organized with a special purpose which defines their reason for being. This purpose typically is expressed in the form of a written charter. Over time, teams develop their own set of norms. Norms are rules or guides for team behavior and decision making. To a great extent, high-performance teams are self-directed. High-performance teams are also empowered (Katzenbach & Smith, 1993).

There are several essential characteristics required for an effective high-performance team. These essential elements are as follows (Katzenbach & Smith, 1993):

Shared Vision. Effective high-performance teams must be characterized by a shared vision of all team members. All team members must share and support a common vision towards which the team. Team members must be highly focused on attaining objectives.

Time-Oriented. Effective high-performance teams must be time-oriented and work toward deadlines. High-performance teams that operate without deadlines tend to be low in productivity.

Communication. The members of high-performance teams must assure that all members of the team understand the plan and progress towards its completion. An effective high-performance team uses all means of communication available to deliver new information to every team member.

Team members recognize that they have an equally strong obligation to keep themselves informed.

Quality Reviews. Effective high-performance teams stop at appropriate intervals to review the quality of the team's output. Quality of team output is as important as is the productivity of the team.

Full Participation. All team members participate fully in all of the activities of an effective high-performance team. The team concept is based on a diversity of input, and if such input does not occur, the effectiveness of the team is compromised.

Self-Direction. Effective high-performance teams are self-managing. High-performance teams do report to a manager responsible for their performance; however, within the team mandate from that manager, the teams are self-directing.

Training and learning can benefit high-performance teams. All high-performance teams are expected to learn as they perform. Additional training, however, can cause the performance of high-performance teams to be more effective and to reach optimal levels of effectiveness more quickly (Katzenbach & Smith, 1993).

Members of high-performance teams must learn to work together effectively and team members must learn to trust one another. Developing trust among team members, although a difficult task, is an essential task for the successful high-performance team (Katzenbach & Smith, 1993). Training

is required to teach team members the importance of mutual trust among team members.

The contemporary controversy surrounding the use of power and authority by supervisors is a philosophical question as much as it is a psychological question. It is relatively easy to perceive the psychological implications involved in superior/subordinate relations involving the exercise of power and authority. More deep-seated, however, are the implications related to the rights of employees within an organization, as opposed to the rights of the organization per se, as represented by management. Many contemporary theorists hold that employees do have a right to participate in decision-making and other organizational processes which may significantly affect their futures, while others hold firmly to the concept that all decisions are the prerogative of management. The issue is far from being settled one way or the other. Whether or not they are settled, however, it is necessary for an organizational leader to develop effective means of addressing the issues. The issues surrounding the use of power and authority, however, must not be allowed to undermine the team concept, wherein each team member is considered to be the equal of each other team member (Katzenbach & Smith, 1993).

The concepts and theories of power and authority and the applications of these concepts and theories in organizational environments have major impacts on the abilities of managers to direct organizations toward the

successful attainment of missions and objectives (Carr, 1994). Power is a concept with which organizational behaviorists have long been concerned. The use of power within organizations is most often perceived as a practice employed by one individual to overcome the resistance of another, as a means of attaining an organizational goal. In the context of this perception, power differences are thought to create problems within organizations, because such power differences lead to the development of organizational conflicts (Tjosvold, 1995).

Conflicts are typically thought to be essential as a means of providing a setting where power may be employed. This assumption is, to a degree, paradoxical, in that power differences are also thought to be one cause of organizational conflict. Nevertheless, the typical train of thought is that the use of power is necessary for the attainment of organizational goals, and the presence of some degree of conflict is necessary in order for power to be employed effectively (Hardy, 1985). This concept of organizational power is often referred to as overt power. The existence has been suggested of a second form of organizational power, which is referred to as unobtrusive power. The application of unobtrusive power within organizations may prevent the development of organizational conflict, and may be used to attain organizational objectives as effectively as they may be attained through application of overt power (Hardy, 1985). It is

conceivable, therefore, that managers who perceive and apply the concept of power in significantly different ways within organizations may achieve comparable outcomes. Depending upon the character of individual managers, the applications of different types of power or a combination of both types of power may be appropriate.

It is useful, therefore, to define overt and unobtrusive power. Overt power use refers to the ability to secure preferred outcomes in the face of competition and conflict among declared opponents. Within organizations, overt power derives from an ability to control scarce resources and resource dependencies. Unobtrusive power, by contrast to overt power, refers to the ability to secure preferred outcomes by preventing conflict from arising (Hardy, 1985). Within organizations, unobtrusive power is derived hegemonic and symbolic sources which are brought into play to legitimize outcomes (Hardy, 1985).

Critics of the concept of employee empowerment through autonomous work teams charge that it has been oversold (Kennedy, 1994). These critics contend that the proponents of empowerment ignore the political realities of organizational environments, attempt to change workplace values, and increase workloads. As a consequence, according to such critics, both employees and management become disenchanted with empowerment. Nevertheless, in the 1990s one of the most widely used organizational structures to empower employees is the creation of teams (Landes, 1994).

### Teamwork Training

Training appears to be a significant factor in the success of high performance teams. Training may consist not only of quality processes, but team dynamics and interpersonal skills including conflict resolution (Collins, 1995). In Collins' study of high performance teams one member, who was a catalyst to solve the team's problem, had a sixth grade education. Collins emphasizes that formal education may not be a success factor for the development of high performance teams, but training is.

Training is an enabler of success in creating high performance teams (Wolff, 1993). When the Industrial Research Institute's Human Resources Director's Network met training, training, training was listed as the number one enabler. Joseph O'Connor, Jr., Director Human resources for Monsanto Corporate Research, observed

"People are so used to a hierarchical setting that when you start talking about people working together as co-equals on a team - not just for a meeting but for deciding what work they will take on, how they will allocate that work, how they will make decision, even allocate rewards - you're talking about a fundamental shift. If you're not going to invest in training for this the result is people willing to work on projects but without the skills to make them happen. Researchers are often from academia and are steeped in the tradition of 'individual investigation'. That's why training is so critical."

Team building, facilitation, conflict resolution, negotiation and business practices are the skills these HR directors deemed important.

After ninety years of traditional management, the transportation-services department of Salt River Project (SRP), a water and electric utility in Arizona, began to move toward self directed work teams - now called high performance teams (Retts, 1995). Salt River Project senior trainer, Nacho Orozco's, goal was to teach employees how to fish for themselves. He created a learning environment in which teams experienced learning on a daily basis, not just in formal training rooms. Orozco feels it's imperative for employees to take ownership of the learning and training that is necessary for their teams to survive. While implementing the five-phase shift into the team environment developing training plans and peer training were integral parts of phase two. By phase four SRP professionals could see that training was starting to pay off. Everyone began to realize that teams were becoming a way of life and had positive effects.

Because they have very different dynamics from traditional business hierarchies teams require very different training programs (Ranney & Deck, 1995). This research study will allow those who work with teams to consider the relationships between teamwork training and teamwork skills/knowledge proficiency.

#### Teams in context with overall business goals

Salt River Project's realization that the utilities industry faced the same challenges as other competitive businesses in the U.S. - to lower costs, raise productivity

improve quality and find innovative ways to increase profitability. The company's transportation-services department's five-year strategic plan to move from traditional management to a team environment included an introductory phase and four implementation phases. SRP believed that employee and management paradigms of the past had outlived their usefulness and that employee were the key to becoming a customer driven, multiskilled, flexible and competitive department. In 1992 the company selected the team approach to achieve corporate goals and show management's commitment to involve employees in sharing departmental decisions. Teams would be expected to:

- 1.Manage the work process
- 2.Solve problems at the lowest possible level
- 3.Accomplish job tasks with little supervision
- 4.Evaluate and challenge work in terms of whether it added value to the department or organization
- 5.Define and set goals to meet customer's expectations
- 6.Clarify team roles regarding company goals
- 7.Assess and define training requirements

It's management's intent that at the end of five years employees would either be involved in or make 80% of all operational decisions within the department (Retts, 1995).

It is believed that companies create value through horizontal work flows - flows that cut across traditional, vertical organized functions. Central to this new vision of organization is the cross-functional process team.



Companies organize teams because there is considerable evidence that they can produce dramatic benefits, from reductions in costs and cycle times, to improvements in quality and accuracy, to higher employee morale and lower absenteeism (Ranney, 1995).

Mercer Management Consulting's extensive research on sales teams suggests that the best performing sales organizations are those that have adopted team structures. These leaders have continued to extend their use of teams as they discover direct links to gains in sales volume, customer loyalty, sales force productivity and employee satisfaction and retention. One high technology company not only reversed a trend of market share losses after adopting teams structures but also increased sales in several key accounts. An annuity service provider achieved a 27% cost reduction the first year after it adopted team selling; after three years its sales had increased 81% and its revenue had risen 54%. High performance is achievable, however, only if the critical support elements are in complete alignment from the start (Ranney, 1995).

Not all firms that have embraced teaming have reaped rewards. One information technology company that invested heavily in creating teams and promoting teamwork found no improvement in either productivity or quality. An analysis revealed that the company's "command and control" organizational model was undermining the teams. Not only did the teams lack resources and accountability, but also

people continued to be rewarded based on individual measures rather than team performance. Not surprisingly, traditional organizational allegiances remained intact and true teamwork never materialized. The company had put up numerous signs reminding employees of the benefits of teamwork, but it's lack of attention to underlying structural supports doomed the effort (Ranney, 1995).

If true teamwork is put into place, high performance teams give back to the organization by helping the organization remain competitive, providing financial savings and modeling effective team behaviors throughout the organization (Collins, 1995).

#### Literature Review Summary

Team-based organization is another form of structure in which members of different functional departments work together in small, but more or less permanent, teams headed by the member from the most professional prestigious specialty. Team members maintain their ties to functional departments for personnel, training, promotion, and other such matters, but they work face to face principally with members of other departments to achieve the level of coordinated expertise demanded by their tasks.

Team-development promotes the idea that individuals who have working relationships with one another within an organizational structure can be trained to work as a team. Participants in a team building process learn to build good

relationships with other team members, to engage in joint problem solving, and to reduce interpersonal friction.

Successful implementation and execution of the team development technique leads to improved communication, enhanced creativity, more effective decision-making, and higher levels of organizational performance. One of the most important manifestations of the team organization decision-making technique is the quality circles concept that was pioneered in Japanese manufacturing organizations, and which, in the 1990s, is found in a number of major American organizations.

Most organizational structures are product/process- or functional-based. Mixed organizational structures, however, have long been common. The hybrid organizational structure attempts to combine the advantages of both product/process-based and functional-based structures while avoiding the weaknesses of each. The matrix organizational structure groups staff into functional areas, with temporary assignments to special project groups, or teams. Such special project teams are multi functional in character. This approach to the team concept produces a matrix in which the columns represent projects and the rows represent functional departments. The matrix is a fairly complex form of organization and is generally both costly and time consuming to administer because of all of the crosscutting of lines of authority and accountability that must be coordinated.

The self-directed work team places such matters as personnel, training, and promotion in the hands of the team, causing the team, in effect, to become almost a separate company within a company. The self-managed work team tends to affect three aspects of organizational structure. The affected aspects of structure are lines of managerial authority within an organization, responsibility and accountability within the organization, and the informal organization within the organizational structure. The development of an effective team-based organization depends on the addressing of issues related to each of these characteristics of an organization.

Strong leadership is necessary for the effective functioning of SMWTs. Such leadership is essential if SMWTs are to hire, train, and assign new employees, determine work schedules, provide instruction in various skills, and make decisions related to bonus compensation and employee terminations. Leadership in high-performance teams, however, is team-based, as opposed to being conferred on an individual member of the team.

To foster strong leadership in SMWTs, organizational management must relinquish control over details, concrete problems, and day-to-day activities. Organizational management then devotes its energies to broader responsibilities, such as planning, and providing direction and support for SMWTs. Within such an organizational environment, management retains authority over strategy,

while the SMWTs assumes authority for tactics within a framework of goals established by management.

Responsibility and accountability are major issues affecting the effectiveness and acceptability of SMWTs. Without clear lines of responsibility and authority, work teams are not truly self-managing, nor are they ever likely to be fully accepted within the organization. Rather, they simply become a manifestation of the latest management fad.

The informal organization within a firm reflects the patterns of activity through which the work of a firm is actually accomplished. Such informal organizations reflect a phenomenon in which natural hierarchies assert themselves whenever human beings organize to work.

The creation or development of work teams within an organization structure is, in essence, a reflection of the informal organization of the firm. When such work teams are voluntarily formed, they represent little departure from the traditional functioning of a firm's informal organization. When work teams are formally created by the firm, however, the organizational structure is changed as the informal organization becomes a part of the formal structure.

The sociotechnical systems concept assumes that every organization is comprised of three sub-systems. The organization's human resources are the social sub-system, while the techniques and knowledge used by the organization are the technical sub-system, and the entities external to the organization (including customers) with which the

organization interacts are the environmental sub-system. The STS concept posits that a change made in any one of the organizational sub-systems must meet the demands of each of the remaining sub-systems. STS analysis views an organization as an open, sociotechnical system, and considers all of the primary organizational sub-systems and their interactions.

Autonomous work teams are sociotechnical systems. Contemporary information science technology makes it feasible to form autonomous work teams comprised of members of each functional area. These autonomous work teams, under such a technical sub-system, would make decisions independently of their functional area organizational superiors.

## CHAPTER 3

### METHODOLOGY

#### Introduction

The methodology that was followed in the conduct of the proposed study is described and explained in this chapter. The proposed methodology is addressed within the contexts of survey design, research questions, variables and operational definitions, population and sample, instrumentation, data analysis, and methodological limitations.

#### Survey Design

We select or favor particular kinds of methodology because we have implicit or explicit conceptions as to what we are trying to do in our research (Morgan, 1983). For successful completion of this research study, the views of many respondents had to be obtained in a short time frame, economically. A survey met this criteria. A survey may be defined as a means of collecting data through communicating with a representative sample of individuals (Zikmund, 1984). Surveys are to generalize from a sample to a population so that inferences can be made about some characteristic, attitude or behavior of this population (Babbie, 1990). Surveys are used because of economy, rapid turn around in data collection and the ability to identify attributes of a population from a small group. Using a survey allowed the researcher to contact a much larger group than by face to face or even the telephone. Mail surveys are a good

alternative to the much heralded face-to-face interviews. They have been found to satisfy the needs of social scientist in a cost-effective way. Response rates have been maximized by using Dillman's total design method (TDM). TDM identifies each aspect of the survey process and provides a timeline for completion of tasks. Follow-up is essential. It is recommended that after one week a postcard reminder is sent, after three weeks a letter with replacement survey be sent to non-respondents, and at seven weeks a reminder package is sent by certified mail (Dillman, 1978). The researcher used a modified TDM because there were only a few months to complete this entire project. The survey was cross-sectional.

This research involved determining the association between teamwork training and the functioning of high-performance teams, especially in relation to the proficiency of such teams.

Data related to each of the research questions to be tested was collected from multinational corporations that use the high-performance team concept to participate in global exhibits. The participating multinational corporations were classified along a continuum from having teamwork training to having no teamwork training. The research questions were tested through comparisons of the data applying correlation analytical procedures for those participating multinational corporations conducting various types of teamwork training i.e. formal, just in time,



delivery methods used, respondent role in teamwork training, etc.

### Research Questions

Five research questions were investigated through the study. These research questions follow:

1. Is teamwork training associated with understanding teamwork proficiency levels among teams?
2. Is teamwork training associated with group interaction proficiency levels among teams?
3. Is teamwork training associated with interpersonal skills proficiency levels among teams?
4. Is teamwork training associated with managing the teams work proficiency levels among teams?
5. Is teamwork training associated with teams in context with overall business goals proficiency levels among teams?

### Variables and Operational Definitions

The independent variable in this research project was the status of teamwork training for members of high-performance teams. This independent variable was defined operationally by asking participants how prevalent teamwork training was in their organization. The scale ranges from 1 (non-existent) to 4 (very prevalent).

The dependent variables in the research study are teamwork skills/knowledge areas in the context of proficiency. The dependent variables were defined

operationally on a 5-point scale ranging from not at all to very proficient.

The dependent variable related to research question Number 1 was proficiency in understanding teamwork. Respondents spoke to:

1. Defining team roles
2. Identifying stages of a team
3. Knowing how to form a team
4. Recognizing differences among team types
5. Balancing team duties with everyday job

The dependent variable related to research question Number 2 was proficiency in group interaction (parts I & II). **In group interaction I**, respondents spoke to:

1. Understanding relationships among team member roles
1. Giving constructive criticism
2. Providing 360 degree feedback
3. Establishing/maintaining team rules
4. Giving peer evaluation
5. Solving problems
6. Thinking creatively
7. Leveraging diversity for increased performance
8. Agreeing on a team purpose/mission
9. Celebrating effort and achievement

**In group interaction II**, respondents spoke to:

1. Conducting team meetings
2. Making effective presentations
3. Brainstorming

4. Making decisions as a team
5. Building consensus
6. Balancing member participation
7. Resolving conflicts within a group

The dependent variable related to research question Number 3 was proficiency in interpersonal skills. Respondents spoke to:

1. Listening to understand
2. Communicating verbally and non-verbally
3. Identifying/understanding key personality types
4. Understanding team members' strengths and weaknesses
5. Resolving conflicts
6. Mediating/negotiating/ influencing/persuading
7. Developing trust and respect
8. Understanding cultural differences

The dependent variable related to research question Number 4 was proficiency in managing the team's work. Respondents spoke to:

1. Establishing project goals
2. Tracking and responding to goals above/below target
3. Creating teamwork plans
4. Assigning tasks/distributing work
5. Setting priorities for tasks/identifying limits and expectations
6. Managing projects

7. Hiring, disciplining and terminating team members
8. Using scientific methods to improve team processes
9. Managing time
10. Creating improvement plans
11. Communicating team progress
12. Documenting and keeping records
13. Maintaining gains

The dependent variable related to research question Number 5 was proficiency in teams in context with overall business goals. Respondents spoke to:

1. Identifying and serving internal/external customers affected by the team's work
2. Utilizing teams to reach business objectives
3. Understanding business fundamentals
4. Accepting and coping with change

#### Population and Sample

The population from which the sample for this study was drawn consisted of 1,400 firms who had identified themselves as using international exhibiting as a marketing tool. These exhibit industry professionals responded to a survey conducted by Exhibitor Magazine and attended the Exhibitor Show conference in Las Vegas or Baltimore during 1999. The firms, selected through the application of random procedures, were mailed a survey and asked to participate in the study. The sampling was single stage, non-stratified. Surveys and a cover letter were mailed to 135 international

exhibit industry professionals. When the list of 1400 was purged for duplication 1355 names remained viable. Using systematic random sampling every tenth name was selected for contact. The majority of the companies were located throughout North America. There were also a few British participants. (See appendix for list companies and their locations). Participants were adults with job titles representing marketing, business development, event planner, exhibit/trade show manager, president/president's assistant. Three mails out were done in one-week intervals. Forty-four surveys were received indicating a return rate of 32.5%. Twenty surveys were returned by mail and twenty-four by fax. Ten surveys were received after calculations were completed (five-mail, five-fax). Two surveys were not used because too many questions were left blank.

### Instrumentation

A modified Teamwork Training Survey, published by Dartnell Corporation, was used. Previously this survey was used internally and the results published in their teamwork newsletter. This division has since been sold so it's impossible to get specific information regarding validity and reliability of the instrument. A factor analysis was run on the proficiency questions. The result was that all of the areas were related rather than indicating distinct,

separate categories. The entire survey is included in the appendix.

The survey begins with a definition of teams and teamwork. Next participants were asked whether they had participated in teamwork training. Questions regarding teamwork within the respondent's organizations range from 2-5-point scales. Respondents are then asked about the teamwork training delivery methods, i.e. most used, most preferred, and their role(s) in teamwork training. Finally the teamwork topics section of the survey addresses teamwork skills/knowledge categories. Respondents rated these proficiencies on a 5-point scale.

The administration period was three weeks. The first mailing was the week of 31 January 2000, with follow-up surveys going out the weeks of 7 and 14 February. Analysis and interpretation was scheduled for the first few weeks in March.

### Data Analysis

The study explored relationships between teamwork training and proficiency in teamwork skills. Each of the teamwork skills/knowledge categories was correlated with the prevalence of teamwork training within their organization. Each of the research questions was analyzed through Pearson correlations. In correlations an attempt is made to explain the movement in a dependent variable through the analysis of movements in independent, or explanatory, variables. The

interval level requirement for measurement of the dependent variable means that an equality of interval exists between the points on the scale with which the variable is measured.

Construct validity is the extent to which a particular test can be shown to measure a hypothetical construct - a theoretical construction about the nature of human behavior (Borg & Gall, 1989). A construct is an abstract variable such as the skill, attitude or ability that the instrument is intended to measure. Construct validity can be defended in one or more ways: (1) expert opinion; (2) correlations; (3) logical deductions; and (4) criterion group studies (Phillips, 1991). Measuring proficiency as it relates to teamwork skills/knowledge areas (i.e. understanding teamwork, group interaction, interpersonal skills, managing the team's work, teams in context with overall business goals) are considered hypothetical constructs because these skills are not directly observable but rather inferred on the basis of their observable effects on behavior. To gather evidence on construct validity a researcher could begin by setting up hypotheses about the characteristics of persons who are highly proficient at teamwork skills/knowledge areas versus those who have low proficiency levels. The reliability of said scales could then be checked statistically for internal consistency, a measure also demonstrating construct validity of the scales on the instrument.

Nunnally & Bernstein provide the following description of how construct validity is established statistically. They write that to provide the extent that a variable is abstract, rather than concrete and observable it's called a construct. Generally speaking, science's two major concerns are (1) developing measures of constructs; and (2) finding functional relations between measures of different constructs. The goal of studying constructs is to employ one or more measures whose results generalize to a broader class of measures that legitimately employ the same name i.e. proficiency in teamwork skills/knowledge areas. Combining several observables provides greater construct validity and scientific generalizability. There are three major aspects of construct validation: (1) specifying the domain of observables related to the construct; (2) determining the extent to which observables tend to measure the same thing, several different things or many different things from empirical research and statistical analysis; and (3) performing subsequent individual differences studies and/or experiments to determine the extent to which supposed measures of the construct are consistent with "best guesses" about the construct. Hopefully this complex process produces a construct that (1) is well defined through a variety of observables; (2) is well represented by alternative measures; and (3) relates strongly to other constructs of interest. Outlining a construct essentially consists of stating what one means by the use of particular



words. The test of how well different experimental measures go together is the extent to which their functional relationships are similar when they are affected by different treatment variables. The measures that most consistently behave as the majority of measures do have the most construct validity.

All proficiency scores on the teamwork training survey correlated with each other indicating they measured the same attributes. Reliability and validity for the instrument used in this research study was established by Phil Pirkle and Associates, Inc. The Pirkle Associates have specialized in corporate teamwork consulting for several years.

Correlations are computed among measures of individual differences; such correlations provide evidence about the structure of a domain of observables relating to a construct. Results of investigations can lead to one of three conclusions. First, if all the proposed measures correlate highly with one another, it can be concluded that they all measure the same thing. Second, if the measure tend to split up into clusters such that the members of a cluster correlate highly with one another and much less with members of their clusters, they measure a number of different things. Third, correlations among the measures all are near zero, so that they measure different things and there is no meaningful construct. Methods, especially those based upon self-report, are often highly correlated because of method variance (Nunnally & Bernstein, 1994).

Correlations were used to relate variables and answer research questions in this research study. Correlational studies include all research projects in which the purpose is to discover relationships between variables through the use of correlational statistics. The purpose of the correlation coefficient is to express in mathematical terms the degree of relationship between any two variables. If the relationship is perfectly positive (for each increment in one variable there is a corresponding increment in the other) the correlation coefficient will be 1.00. If the relationship is perfectly negative, it will be -1.00. If there is no relationship, the coefficient will be zero. If two variables are somewhat related, the coefficients will have a value between zero and 1.00 (if the relationship is positive) or between zero and -1.00 (if negative). Thus, the correlation coefficient is a precise way of stating the extent to which one variable is related to another (Borg & Gall, 1989). Statistical significance was established at the  $p < .05$  level of probability. The  $p < .05$  level of statistical significance was used as the criterion for rejection.

Response bias was reflected in question seven on the survey. One part of the question asked respondents about their role in their organization's teamwork training program. Participants who had a role in training had higher proficiency ratings. Perhaps respondents felt they had a vested interest to rate themselves more proficient if they

were involved in providing training or had vast knowledge and experience in the training field.

#### Methodological Limitations

The principal limitation to the methodology in this study is that the data related to the dependent variables relied largely on the perceptions of the respondents, as opposed to being measured objectively. The respondents in the study, however, were knowledgeable in the interest areas, and it is hoped that their knowledge minimized the effects of this limitation.

A second limitation is related to the population and sample. There exists no registry of multinational corporations based in the United States which have operating high-performance teams; thus, there is no feasible way to assure that all such firms are included in the sample selection process. By contacting firms who form teams to participate in many exhibits each year it is hoped this limitation was minimized. There are two organizations for professional development in the exhibit industry. The population study for the study was drawn from the data base of one of those organizations. There is some crossover participation among the two organizations but there is a possibility that most of the survey participants were drawn heavily from one organization. Individuals in the exhibit industry who do not participate in activities with either professional organization might have been excluded from the sample population.

Perhaps a greater degree of validity could have been established statistically rather than by a panel of experts.

Other limitations of the study were numerous. Field testing the survey would have indicated that placing my first question immediately below definitions might cause it to be overlooked. I would like to have had the time frame Dillman recommended between mail outs. I did not have the resources to call non-respondents between mail outs. One of my mail outs was received just before an exhibit industry annual conference. Participants were volunteers rather than involved in a company wide study where management could mandate participation. The data was self-reported. Response rate was lower than I would have liked.

Time constraints are critical to every aspect of any study i.e. survey mail out, responses, tabulation, write up. When respondents see a four-page survey they may feel it will take them too much time to complete the survey. Although the information requested was necessary to analyze the phenomenon being studied and only took about 15 minutes to complete, response rates could have been affected. It was felt that identification with Exhibitor Magazine, a national publication in their industry, would minimize non-response rates.

Proficiency among teams is probably the result of many, many aspects. There is no list of characteristics among proficient teams, in the global exhibit arena, or other areas for researchers to reference. This study employs an

attempt to break down complex behavior into simple components. Only the most careful interpretations of correlational data can provide an understanding of the phenomenon being studied (Borg & Gall, 1989).

The study will not establish cause and effect but merely relationships among variables. At the conclusion of the study the researcher will not be able to recommend a particular type of teamwork training to ensure proficiency among global exhibit teams.

#### Method Summary

The methodology that was followed in the conduct of the proposed study was described and explained in this chapter. The proposed methodology was addressed within the contexts of survey design, research questions, variables and operational definitions, population and sample, data collection, instrumentation, and methodological limitations. The results of the research performed are reported in the following chapter of this study.

## Chapter 4

### RESULTS

#### Introduction

The results of the testing of the hypotheses are presented in this chapter. A total of five hypotheses were tested, and the results are presented separately for each hypothesis.

#### Test of Hypothesis One

Hypothesis one held that a higher level of organizational experience with teamwork training correlates with a higher level of proficiency in understanding teamwork among the teams in an organization. This hypothesis was tested in its null form, which held that variations in proficiency in understanding teamwork are unrelated to variations in organizational experience with teamwork training. The criterion for the rejection of the null was  $p < .05$ .

Descriptive statistics related to the independent and dependent variables in this hypothesis are presented in Table 4.1. The results of the Pearson Product Moment correlation analysis testing the hypothesis are presented in Table 4.2.

Table 4.1

**Descriptive Statistics**

	Mean	Std. Deviation	N
Organization's experience with teamwork	2.8182	.9947	44
TMWK1TOT	17.9091	4.4189	44

Table 4.2

**Correlations**

		Organization's experience with teamwork	TMWK1TOT
Organization's experience with teamwork	Pearson Correlation		
	Sig. (2-tailed)		
	Sum of Squares and Cross-products		
	Covariance		
	N		
TMWK1TOT	Pearson Correlation	.160	
	Sig. (2-tailed)	.299	
	Sum of Squares and Cross-products	30.273	
	Covariance	.704	
	N	44	

As the data presented in Table 4.2 indicate, the relationship between the independent and dependent variables in the correlation analysis was not statistically significant at  $p < .05$  (Pearson Product Moment correlation

coefficient = .160; Significance level =  $p$  .299). Therefore, the null could not be rejected, and, by inference, the alternative form of the hypothesis was rejected.

### Test of Hypothesis Two

Hypothesis two held that a higher level of organizational experience with teamwork training correlates with a higher level of proficiency in group interaction among the teams in an organization. This hypothesis was tested in its null form, which held that variations in proficiency in group interaction are unrelated to variations in organizational experience with teamwork training. This hypothesis was tested twice, as the survey questionnaire included two separate dimensions of group interaction among teams. The criterion for the rejection of the null was  $p < .05$ .

Descriptive statistics related to the independent and dependent variables related to the first test of this hypothesis are presented in Table 4.3. The results of the Pearson Product Moment correlation analysis testing of the first test of this hypothesis are presented in Table 4.4.



Table 4.3

**Descriptive Statistics**

	Mean	Std. Deviation	N
Organization's experience with teamwork	2.8182	.9947	44
TMWK2TOT	34.6591	7.5512	44

Table 4.4

**Correlations**

		Organization's experience with teamwork	TMWK2TOT
Organization's experience with teamwork	Pearson Correlation		
	Sig. (2-tailed)		
	Sum of Squares and Cross-products		
	Covariance		
	N		
TMWK2TOT	Pearson Correlation	.406**	
	Sig. (2-tailed)	.006	
	Sum of Squares and Cross-products	131.273	
	Covariance	3.053	
	N	44	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

As the data presented in Table 4.4 indicate, the relationship between the independent and dependent variables in the correlation analysis was statistically significant at

$p < .05$  (Pearson Product Moment correlation coefficient = .406; Significance level =  $p .006$ ). Therefore, the null could be rejected, and, by inference, the alternative form of the hypothesis was accepted in relation to this first test of the hypothesis.

Descriptive statistics related to the independent and dependent variables related to the second test of this hypothesis are presented in Table 4.5. The results of the Pearson Product Moment correlation analysis testing of the second test of this hypothesis are presented in Table 4.6.

Table 4.5

### Descriptive Statistics

	Mean	Std. Deviation	N
Organization's experience with teamwork	2.8182	.9947	44
TMWK3TOT	25.6818	6.1749	44

As the data presented in Table 4.6 indicate, the relationship between the independent and dependent variables in the correlation analysis was not statistically significant at  $p < .05$  (Pearson Product Moment correlation coefficient = .142; Significance level =  $p .358$ ). Therefore, the null could not be rejected, and, by

inference, the alternative form of the hypothesis was rejected in relation to this second test of the hypothesis.

Table 4.6

**Correlations**

		Organization's experience with teamwork	TMWK3TOT
Organization's experience with teamwork	Pearson Correlation		
	Sig. (2-tailed)		
	Sum of Squares and Cross-products		
	Covariance		
	N		
TMWK3TOT	Pearson Correlation	.142	
	Sig. (2-tailed)	.358	
	Sum of Squares and Cross-products	37.455	
	Covariance	.871	
	N	44	

Test of Hypothesis Three

Hypothesis three held that a higher level of organizational experience with teamwork training correlates with a higher level of proficiency in interpersonal skills among the teams in an organization. This hypothesis was tested in its null form, which held that variations in proficiency in interpersonal skills are unrelated to variations in organizational experience with teamwork

training. The criterion for the rejection of the null was  $p < .05$ .

Descriptive statistics related to the independent and dependent variables in this hypothesis are presented in Table 4.7, which may be found below on this page. The results of the Pearson Product Moment correlation analysis testing the hypothesis are presented in Table 4.8.

Table 4.7

**Descriptive Statistics**

	Mean	Std. Deviation	N
Organization's experience with teamwork	2.8182	.9947	44
TMWK4TOT	27.1591	6.2764	44

As the data presented in Table 4.8 indicate, the relationship between the independent and dependent variables in the correlation analysis was statistically significant at  $p < .05$  (Pearson Product Moment correlation coefficient = .388; Significance level =  $p .009$ ). Therefore, the null could be rejected, and, by inference, the alternative form of the hypothesis was accepted.

Table 8

**Correlations**

		Organization's experience with teamwork	TMWK4TOT
Organization's experience with teamwork	Pearson Correlation Sig. (2-tailed) Sum of Squares and Cross-products Covariance N		
TMWK4TOT	Pearson Correlation Sig. (2-tailed) Sum of Squares and Cross-products Covariance N	.388** .009 104.273 2.425 44	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Test of Hypothesis Four

Hypothesis four held that a higher level of organizational experience with teamwork training correlates with a higher level of proficiency in managing the work of a team among the teams in an organization. This hypothesis was tested in its null form, which held that variations in proficiency in managing the work of a team are unrelated to variations in organizational experience with teamwork training. The criterion for the rejection of the null was  $p < .05$ .

Descriptive statistics related to the independent and dependent variables in this hypothesis are presented in Table 4.9. The results of the Pearson Product Moment correlation analysis testing the hypothesis are presented in Table 4.10.

Table 4.9

**Descriptive Statistics**

	Mean	Std. Deviation	N
Organization's experience with teamwork	2.8182	.9947	44
TMWK5TOT	41.0682	9.8060	44

As the data presented in Table 4.10 indicate, the relationship between the independent and dependent variables in the correlation analysis was not statistically significant at  $p < .05$  (Pearson Product Moment correlation coefficient = .287; Significance level =  $p$  .069). Therefore, the null could not be rejected, and, by inference, the alternative form of the hypothesis was rejected.

Table 4.10

**Correlations**

		Organization's experience with teamwork	TMWK5TOT
Organization's experience with teamwork	Pearson Correlation		
	Sig. (2-tailed)		
	Sum of Squares and Cross-products		
	Covariance		
	N		
TMWK5TOT	Pearson Correlation	.287	
	Sig. (2-tailed)	.059	
	Sum of Squares and Cross-products	120.545	
	Covariance	2.803	
	N	44	

Test of Hypothesis Five

Hypothesis five held that a higher level of organizational experience with teamwork training correlates with a higher level of proficiency in coordinating team performance with overall organizational goals among the teams in an organization. This hypothesis was tested in its null form, which held that variations in proficiency in coordinating team performance with overall organizational goals are unrelated to variations in organizational experience with teamwork training. The criterion for the rejection of the null was  $p < .05$ .

Descriptive statistics related to the independent and dependent variables in this hypothesis are presented in Table 4.11. The results of the Pearson Product Moment correlation analysis testing the hypothesis are presented in Table 4.12.

Table 4.11

**Descriptive Statistics**

	Mean	Std. Deviation	N
Organization's experience with teamwork	2.8182	.9947	44
TMWK6TOT	14.1364	3.6446	44

As the data presented in Table 4.12 indicate, the relationship between the independent and dependent variables in the correlation analysis was statistically significant at  $p < .05$  (Pearson Product Moment correlation coefficient = .373; Significance level =  $p .013$ ). Therefore, the null could be rejected, and, by inference, the alternative form of the hypothesis was accepted.



Table 12

**Correlations**

		Organization's experience with teamwork	TMWK6TOT
Organization's experience with teamwork	Pearson Correlation		
	Sig. (2-tailed)		
	Sum of Squares and Cross-products		
	Covariance		
	N		
TMWK6TOT	Pearson Correlation	.373*	
	Sig. (2-tailed)	.013	
	Sum of Squares and Cross-products	58.091	
	Covariance	1.351	
	N	44	

\*. Correlation is significant at the 0.05 level (2-tailed).

Additional Research

Although not specifically addressed in the research questions investigated in this study, a Pearson Product Moment correlation analysis was performed to test the relationship between the level of organizational experience with teamwork training and the combined level of proficiency of all of the dimensions of teamwork performance addressed in the separate research questions. A null hypothesis holding that variations in proficiency in overall team performance (as measured by the dimensions of team performance addressed in the five research questions) are unrelated to variations in organizational experience with

teamwork training. The criterion for the rejection of the null was  $p < .05$ .

Descriptive statistics related to the independent and dependent variables in this hypothesis are presented in Table 4.13. The results of the Pearson Product Moment correlation analysis testing the hypothesis are presented in Table 4.14.

Table 13

**Descriptive Statistics**

	Mean	Std. Deviation	N
Organization's experience with teamwork	2.8182	.9947	44
Mean of all teamwork scores	26.7682	5.5888	44

As the data presented in Table 4.14 indicate, the relationship between the independent and dependent variables in the correlation analysis was statistically significant at  $p < .05$  (Pearson Product Moment correlation coefficient = .336; Significance level =  $p .026$ ). Therefore, the null could be rejected, and, by inference, the alternative form of the hypothesis, to the effect that overall teamwork proficiency is related positively to the organizational teamwork training experience was accepted.

Table 14

**Correlations**

		Organization's experience with teamwork	Mean of all teamwork scores
Organization's experience with teamwork	Pearson Correlation		
	Sig. (2-tailed)		
	Sum of Squares and Cross-products		
	Covariance		
	N		
Mean of all teamwork scores	Pearson Correlation	.336*	
	Sig. (2-tailed)	.026	
	Sum of Squares and Cross-products	80.305	
	Covariance	1.868	
	N	44	

\*. Correlation is significant at the 0.05 level (2-tailed).

## Chapter 5

### DISCUSSION

#### Implications

Five research questions were investigated through the conduct of this study. These research questions, together with the findings and implications related to the questions, were as follows:

Research question 1. Is teamwork training associated with understanding teamwork proficiency levels among teams? The research performed in relation to this research question found that teamwork training does not have a positive impact on proficiency in understanding teamwork. The implication of this finding is that proficiency in understanding teamwork is acquired through experience more so than through training.

Research question 2. Is teamwork training associated with group interaction proficiency levels among teams? The research performed in relation to this research question yielded conflicting findings. The results indicated that teamwork training does have a positive impact on proficiency in group interaction in relation such activities as constructive criticism, providing feedback, solving problems, and thinking creatively. Conversely, however, the results indicated that teamwork training does not have a positive impact on

such important functions as building consensus, making group decisions, and resolving within group conflicts. The implication of these findings is that developing proficiency in group interaction cannot rely on training alone.

Research question 3. Is teamwork training associated with interpersonal skills proficiency levels among teams? The research performed in relation to this research question found that teamwork training does have a positive impact on proficiency in interpersonal skills. The implication of this finding is that developing proficiency in interpersonal skills is conducive to acquisition through training.

Research question 4. Is teamwork training associated with managing the team's work proficiency levels among teams? The research performed in relation to this research question found that teamwork training does not have a positive impact on proficiency in managing the work of teams. The implication of this finding is that proficiency in managing the work of teams is acquired through experience more so than through training.

Research question 5. Is teamwork training associated with teams in context with overall business goals proficiency levels among teams? The research

performed in relation to this research question found that teamwork training does have a positive impact on proficiency in coordinating the work of teams with overall organizational goals. The implication of this finding is that training is an effective means of conveying the importance of a single organizational strategic focus.

The conflicting correlations between teamwork training and various aspects of group interaction proficiency levels is intriguing. The findings indicated teamwork training does have a positive impact on some components making up Group Interaction I descriptors (i.e. constructive criticism, providing feedback, solving problems, thinking creatively) but teamwork training does not have a positive impact on some descriptors (i.e. building consensus, making team decisions, resolving within group conflicts) included in the Group Interaction II category. Prior to conducting my research I asked my Dartnell contact about the criteria for dividing the specific examples into I and II. Due to complete company restructuring there was no one who could give me information about the development of their instrument. Discovering the relationships between the specific examples in I and II could provide an explanation for conflicting findings. This is an area for future

research. Training could then be designed to enhance more aspects of group interaction.

The more years participants had had training the more proficient they rated themselves in terms of team knowledge/skill areas. The more years an organization had had any types of teams the more proficient teams rated themselves. Therefore, experience and longevity seem to affect levels of proficiency among teams.

Having or not having formal teamwork training programs in organizations did not affect proficiency levels. Using a just in time training approach for teams did not affect proficiency levels.

The respondents who answered the most preferred method of teamwork training in their organizations question (just over half) listed off or on site seminars as their number one choice. When designing training for those areas where training correlated positively with proficiency levels the trainer should bear in mind that trainees voiced a preference for the seminar format.

#### Recommendations and Implementation

It appears that experience is an important factor in developing proficiency in the areas of understanding teamwork and managing the team's work. Ideally companies could find out what kinds of experiences these employees have had and expose potential team participants to

comparable work experiences early in their careers. Once these kinds of experiences have been identified employees could also gain said experiences via committee or community projects. It would not be prudent to budget training funds for these areas, but rather assist employees in getting these experiences by developing appropriate internal or external programs.

Teamwork training played an important role in developing proficiencies in interpersonal skills and teams in context with overall business goals. First, the content of the teamwork training must be defined. One individual stated he received his training in the U.S. Army. Other participants training came from numerous avenues; not always from the companies where they now work. Once the kind of training team participants have had has been ascertained trainers can assess whether a particular type of training has been received by a majority of team members. If it's discovered that a majority of team members who rated themselves highly proficient have had training in giving constructive criticism, providing 360 feedback, solving problems and thinking creatively, offer the aforementioned types of training to prospective team participants.

Since teamwork training and interpersonal skills were correlated the researcher makes the following



recommendations to organizations for prospective team members. Provide listening skills training. In Team Training: from start up to high performance by Carl Harshman and Steve Phillips the importance of developing listening skills is emphasized. They tell us that in the broadest sense, listening is the ability to demonstrate respect for others, the ability to hear in a caring way what others are communicating and the ability to understand the emotion and intent of co-workers in the course of conducting business together. In today's organization, listening is critical to effective leadership and high performance teams. Organizations should offer listening skills training which consists of the importance of listening, commandments for good listening, identifying chronically poor listeners, mental attitudes for effective listening, active listening techniques and key listening techniques. Although the initial listening skills session may be conducted in four hours it must be emphasized to participants that these skills are developed continuously over time. Verbal and non-verbal communication skills training should be offered. Non-verbal communication skills are extremely important when team members are of different nationalities or teams are interacting with prospects and colleagues globally. Communication training includes

guidelines for good communication, communication strategies to encourage or discourage and communication exercises. One day is the recommended time frame for communications sessions. There should be training that helps team members identify and understand key personality types. Rhonda Hilyer of Agreement Dynamics developed a Personal Style Assessment instrument that aids team members in identifying their personality types/styles. Once identified the impact on the team can be explored by asking questions such as (1) How can your knowledge of personal styles and differences affect your functioning as a team? (2) Where are the team's strengths in terms of styles? (3) What are the advantages of all the team members having the same style and members having different styles? (4) If you were putting together a task force to work on a major project what kinds of styles would you want on the team? What strengths would various styles bring to various aspects of the project? This session could be completed in three hours. Conflict resolution training should be provided. A four hour session would include defining conflict, exploring conflict styles, discussing conflict strategies based on personal styles, using integrative resolution as a conflict management strategy and applying the strategy to a specific challenge the team is experiencing.

Mediating, negotiating, influencing, persuading skills should be taught. Harris & Moran developed a negotiation skills self assessment exercise. Once completed team members know whether their style is factual, intuitive, normative or analytical. Guidelines for negotiating with people having different styles can then be explored. Ethics and strategic concessions are discussed. Attorneys who have begun litigation alternative practices are excellent resources for mediation training. Influencing and persuading tactics should also be included in this half day training category. Trust building training should be provided. There are numerous experiential (in door) and ropes (out door) sessions which range in time from hours to days. Individual organizations must assess the amount of time and resources they are willing to devote to this component. Training focusing on understanding and valuing cultural differences should be provided. In Global Solutions for Teams, Sylvia Odenwald offers strategies for overcoming "cultural collision" and moving toward "coexistence and collaboration". The book lists numerous resources for training courses (customized or off the shelf) and training vendors. The global solution brought forth in the book is described by the acronym vision: visionary leadership, innovative strategies, synthesis of

cultures, integration of teams, ongoing flexibility, never-ending transformation. Again, sessions can range from hours to days depending upon organizational goals.

Teamwork training and teams in context with overall business goals were correlated so the researcher makes the following recommendations to organizations for prospective team members. Provide training on identifying and serving customers affected by the team's work. This session should include how to (1) identify the teams' internal and external customers' standards, (2) conduct an analysis of customer satisfaction and (3) create a customer feedback loop for the team. During this session team members can actually participate in a customer feedback meeting. This is a three hour session (excluding the meeting with customers). Provide training on utilizing teams to reach business objectives. During this session trainers must first insure that team members are familiar with their company's mission. Team members then develop a purpose statement, in support of their company's mission, which guides the planning, resource allocation and management of the team's business. This is a two hour session. Training in business fundamentals should be provided. It's imperative team members understand the overall business of the organization and the relationship of the team to that business. This two

hour session should provide an overview of the business including mission, goals/objectives, budgets, strategic plans and political realities. Accepting and coping with change must also be addressed via training. Team members will explore the history, goals, strategy and role of teams in organizational change. Specific topics to be addressed include: teams and the change process, the role of teams and the team development process, history of change, the organization's change strategy and hopes and concerns. This is a three hour session.

Time frames for the recommended training have been included above. Costs will depend upon many factors i.e. whether an organization has trainers on staff or must hire outside vendors, whether training is customized, off the shelf or via the latest technology, whether it's conducted on site (company conference room) or off site (Bermuda conference center).

#### Summary

Two important conclusions were drawn from the findings of the research performed for this study. First, teamwork training has an important role to play in the development of teamwork proficiency within an organization. Second, some teamwork activities, more so than others, are susceptible to the use of teamwork training to develop proficiency. Organizations, thus,

should design teamwork training around those activities positively affected by teamwork training, rather than those which appear to be affected by experience. This strategy is likely to produce the best outcomes in the most timely, cost effective manner.

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## APPENDIX

# TEAMWORK TRAINING SURVEY

*Modified version of Teamwork Training Survey with permission from Dartnell. Copyright 2000 by Dartnell, 747 Dresher Road, P.O. Box 980, Harsham, PA 19044-0980. All rights reserved. For more information on products published by Dartnell, please call (800) 621-5463, ext. 567*

## I. Teams and teamwork

A team is a small number of people with complementary skills who are committed to a common purpose, performance goals and approach for which they hold themselves mutually accountable. Teamwork represents a set of values that encourages behaviors such as listening and constructively responding to points of view expressed by others, giving others the benefit of the doubt, providing support to those who need it and recognizing the interests and achievements of others (Katzenbach & Smith, 1993).

Have you participated in teamwork training? Please circle Yes No.

## II. Teamwork within your organization

1. Using the 4-point scale below, how prevalent is teamwork training in your organization?

1	2	3	4
Nonexistent			Very prevalent

2. What types of teams have been established in your organization, and how long has each existed (Respond to all that apply.)

	Less than 1 year	1-3 years	4-5 years	5+ years	None
a. Self-directed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Cross-functional	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Project-oriented	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Departmental	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Is your entire organization team-based?

☐ Yes (skip to question 4)    ☐ No

3a. If not, are there any plans for a transition to a company wide team-based structure?

☐ Yes                                      ☐ No

4. Is there a formal teamwork training program in your organization?

☐ Yes                                      ☐ No (skip to question 5)

4a. If "yes", do participants receive team member or team leadership training or both?

☐ Team member training    ☐ Team leader training    ☐ Both

5. Do you use a just-in-time training approach for teams? (*just-in-time training* = training provided just prior to the time when skills are required to perform a task or function)

☐ Yes                                      ☐ No

6. Rank the *three* most commonly used delivery methods of teamwork training in your organization, as well as your *three* most preferred methods (1 = most used/preferred)

	<u>Most Used</u>	<u>Most Preferred</u>
Videotape	_____	_____
Audiotape	_____	_____
Books	_____	_____
Newsletters	_____	_____
Consultants	_____	_____
Off-site seminars	_____	_____
Onsite seminars	_____	_____
Computer-based training:		
Diskette	_____	_____
CD-ROM	_____	_____
CD-I	_____	_____
Online services	_____	_____
Self-study programs	_____	_____
Visiting speakers	_____	_____
Games/Simulation	_____	_____
Other _____	_____	_____

7. What role(s) do you have in teams and teamwork training within your organization? (check all that apply)

<u>Teams</u>	<u>Training</u>	<u>Training</u>
<input type="checkbox"/>	<input type="checkbox"/> Team leader	<input type="checkbox"/> Trainer
<input type="checkbox"/>	<input type="checkbox"/> Team member	<input type="checkbox"/> Training program administrator
<input type="checkbox"/>	<input type="checkbox"/> Facilitator	<input type="checkbox"/> Training program buyer
<input type="checkbox"/>	<input type="checkbox"/> Coach	<input type="checkbox"/> Training program developer
<input type="checkbox"/>	<input type="checkbox"/> In-house consultant	
<input type="checkbox"/>	<input type="checkbox"/> Other _____	

### III. Teamwork Topics

Below are six different teamwork skills/knowledge categories, along with a listing of specific examples of skill/knowledge areas within these categories. For each of the specific examples, please indicate the level of proficiency your teams achieve in this area. Please circle from 1 (not at all) through 5 (very).

**1. Understanding Teamwork**

**Level of Proficiency**  
**Not at all      Somewhat      Very**

**1      2      3      4      5**

Defining team roles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Identifying the stages of a team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Knowing how to form a team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recognizing differences among teams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Balancing team duties with everyday job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**2. Group Interaction I**

**1      2      3      4      5**

Understanding relationships among team member roles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Giving constructive criticism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing 360 feedback (360 feedback = when you or your supervisor go to the person for whom you've done the work and ask them for an evaluation)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Establishing/maintaining team rules	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Giving peer evaluation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Solving problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thinking creatively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Leveraging diversity for increased performance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Agreeing on a team purpose/mission	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Celebrating effort and achievement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**3. Group Interaction II**

**1      2      3      4      5**

Conducting team meetings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Making effective presentations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Brainstorming	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Making decisions as a team	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Building consensus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Balancing member participation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Resolving conflicts within a group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**4. Interpersonal Skills**

**1      2      3      4      5**

Listening to understand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communicating verbally and non-verbally	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Identifying/understanding key personality types	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Understanding team members' strengths and weaknesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Resolving conflicts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	1	2	3	4	5
Mediating/negotiating/influencing/persuading	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Developing trust and respect	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Understanding cultural differences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>5. <u>Managing the team's work</u></b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Establishing the project goals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tracking & responding to goals above/below target	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creating work team plans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assigning tasks/distributing work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Setting priorities for tasks/identifying limits and expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Managing projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hiring, discipline & terminating team members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Using scientific methods to improve team processes (i.e. decisions based on data rather than "hunches")	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Managing time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creating improvement plans	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Documenting and keeping records	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maintaining gains	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>6. <u>Teams in context with overall business goals</u></b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Identifying/serving internal/external customers affected by the team's work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Utilizing teams to reach business objectives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Understanding business fundamentals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accepting and coping with change	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Name \_\_\_\_\_ Title \_\_\_\_\_

Organization \_\_\_\_\_

Address \_\_\_\_\_

CSZ \_\_\_\_\_

Telephone \_\_\_\_\_ Fax \_\_\_\_\_

E-mail \_\_\_\_\_

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**Thank you for your time and participation in this research project.**



**SBC Communications**  
530 McCullough, Room 13-J-6  
San Antonio, TX 78215  
USA

**Nortel Northern Telecom**  
8200 Dixie Rd. Ste 100  
Brampton, Ontario L5T 5P6  
Canada

**Lockheed Martin Corp**  
P.O. Box 8048  
Philadelphia, PA 19101  
USA

**Colonial Williamsburg Foundation**  
P.O. Box 1776  
Williamsburg, VA 23187-1776  
USA

**Kohler Co.**  
444 Highland Dr. M5052  
Kohler, WI 53044  
USA

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Oaks,, PA 19456  
USA

**Cahner Business Information**  
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Braintree, MA 02184  
USA

**SAP America, Inc.**  
300 Stevens Dr 3F  
Philadelphia, PA 19113  
USA

**Custom Color Corporation**  
300 W 19th Terr  
Kansas City, MO 64108  
USA

**Edmonton Convention Planners**  
1 Westwood Place  
Spruce Grove, Alberta T7X1S4  
Canada

**USP**  
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Rockville, MD 20852  
USA

**Eastman Kodak Company**  
343 State St.  
Rochester, NY 14650-0403  
USA

**Admore Inc.**  
**16 Chocksett Rd.**  
**Sterling, MA 01564-2336**  
**USA**

**Lockheed Martin Corp**  
**1725 Jefferson Davis Hwy 300**  
**Arlington, VA 22202-4127**  
**USA**

**Boston Financial**  
**Boston, MA**  
**USA**

**Fiber Optic Lighting**  
**950 South East M Street**  
**Grand Pass, OR 97526**  
**USA**

**Bell Geospace, Inc.**  
**2 Northpoint Dr., Ste 715**  
**Houston, Texas 77060**

**Nike**  
**one Bauerman Dr.**  
**Beaverton,, OR 97005**

**Halliburton Energy Services**  
**1015 Bois D'Arc St.**  
**Duncan, OK 73536-0133**  
**USA**

**Heritage Exhibits**  
**375 Rivertown Drive**  
**Woodbury, MN 55125**  
**USA**

**ITT Aerospace/Comm Division**  
**1919 W. Cook Rd.**  
**Fort Wayne, IN 46801**  
**USA**

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**USA**

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**USA**

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**AFFTC/XPX**  
**Edwards AFB, CA**

**AGR International**  
**Butler, PA**

**Amersham Pharmacia Biotech**  
**Piscataway, NJ**

**Apple Rubber Products**  
**Lancaster, NY**

**Atlantic Skyline**  
**Chantilly, VA**

**Augustine Medical**  
**Eden Prairie, MN**

**Baker & Taylor Books**  
**Charlotte, NC**

**Batelle**  
**Columbus, OH**

**Black & Veatch**  
**Overland Park, Kansas**

**Block Drug**  
**Jersey City, NJ**

**Blonder-Tongue Labs**  
**Old Bridge, NJ**

**Bose Corporation**  
**The Mountain**  
**Framingham, MA 91701-8863-03**

**Eli Lilly & Company**  
**Lilly Corporate Center, DC 0313**  
**Indianapolis, IN 46285**  
**USA**

**afemco**  
**P.O. Box 30160**  
**Bethesda, MD 20824-0160**  
**USA**

**Exhibitgroup / Giltspur**  
**5-51 SW Western Ave**  
**Beaverton, OR 97005**  
**USA**

**MTV Networks**  
**1515 Broadway**  
**New York, NY 10036**  
**USA**

**Space Systems/Loral**  
**3825 Fabian Way M/S-G80**  
**Palo Alto, CA 94305**

**The Associates**  
**250 E. Carpenter Fwy.**  
**Irving, TX 75062**  
**USA**

**Clemmer Moving & Storage, Inc.**  
**425 Schoolhouse Rd.**  
**Telford, PA 18969**  
**USA**

**Koln Messe**  
40 West 57th Street, 31F  
New York, NY 10019-4092  
USA

**Paradigm Geophysical**  
1200 Smith St., Ste 2100  
Houston, TX 77002

**Imation**  
1 Imation Pl  
Oakdale, MN 55128  
USA

**Marketing Comm Manager**  
Nikon Precision Inc.  
1399 Shoreway Rd.  
Belmont, CA 94002-4107

**KCI**  
P.O. Box 659508  
San Antonio, TX 78265-9508  
USA

**Alcon Laboratories Inc.**  
6201 South Freeway  
Ft Worth, TX 76134-2099  
USA

**General Motors of Canada Ltd.**  
P.O. Box 5160  
London, Ontario N6A 4N5  
Canada

**Hoechst Marion Rousset Pharmacy**  
Route 202-206  
Bridgewater, NJ 08807  
USA

**IBM**  
Austin, TX

**IDS Uniphase EPITAXX**  
West Trenton, NJ

**Jetform Corp.**  
Ottawa, ON  
Canada

**Kerry Ingredients**  
Bristol,  
UK

**Landmark Systems Corp**  
Reston, VA

**Li-Cor Inc.**  
Lincoln, NE

**L-Soft International Inc.**  
Landover, MD

**Marshall Gas Controls**  
San Marcos, TX

**Mity-Life**  
Orem, UT

**Morley Companies Inc.**  
Saginaw, MI

**Nomadic Display**  
Springfield, VA

**Bullet IN net  
Alpharetta, GA**

**Codonics  
Middleburg Heights, OH**

**Cognos  
Burlington, MA**

**Diamond Comic Distributors, Inc.  
Timonium, MD**

**Eastman Chemical Company  
Kingsport, Tennessee**

**Eastman Kodak Company  
2400 Mt Read Bl  
Rochester, NY 14650-0403**

**Edgewood CB Center  
APG/EA, MD**

**Elite Engineering Corp.  
Newbury Park, CA**

**Entergy  
Baton Rouge, LA**

**Evans & Sutherland  
Salt Lake City, UT**

**Exhibitgroup/Giltspur  
Atlanta, GA**

**Good Connections  
Pattump, NV**

**Habitat Inc.  
Tempe, AZ**

**Hercules Inc.**

**Cisco Systems  
18581 Dallas Pkwy #100  
Dallas, TX 75287-5208**

**Waddell Manufacturing Company  
3688 Wyoga Lake Rd.  
Stow, OH 44224  
USA**

**Bombardier Aerospace  
P.O. Box 6087 Station Centre Vlg  
Montreal, Quebec H3C3G9  
Canada**

**Skowron and Associates, LLC  
2006 Frances Dr.  
Loveland, CO 80537  
USA**

**Texas Instruments Incorporated  
7800 Banner Dr., MS 3922  
Dallas, TX 75251  
USA**

**AECL  
2251 Speakman Dr.  
Mississauga, Ontario L5K 1B2  
Canada**

**Megtec Systems**  
830 Prosper Rd.  
De Pere, WI 54115  
USA

**Kohler Co.**  
444 Highland Dr. M5052  
Kohler, WI 53044  
USA

**3M Employee Transportation**  
3M Center Building 225-IN-20  
St. Paul, MN 55144-1000  
USA

**MetaTools, Inc.**  
6303 Carpinteria Av.  
Carpinteria, CA 93013  
USA

**Space Systems/Loral**  
3825 Fabian Way M/S-G60  
Palo Alto, CA 94305  
USA

**Channell Commercial Corp**  
26040 Ynez Rd.  
Temecula, WA 92591  
USA

**Pratt & Whitney**  
400 Main ST  
East Hartford, CT 06108  
USA

**Nortel**  
8200 Dixie Rd. Ste 100  
Brampton, Ontario L6T 5P6  
Canada

**Meeting Professionals International**  
4455 LBJ Freeway, Ste 1200  
Dallas, TX 75244-5903  
USA

**VIP**  
Cra.6 # 77-53  
Santa Fe de Bogota,  
Columbia

**Healthcare Convention & Exhibitors**  
5775-G Peachtree-Dunwoody Rd., Ste 500  
Atlanta, GA 30342  
USA

**Loral Space & Communications**  
600 Third Ave  
New York, NY 10016  
USA

**Red Lion Hotels & Inns**  
2001 Point West Way  
Sacramento, CA 95815  
USA

**Hamilton Exhibits**  
4045 Lakefront Ct.  
Earth City, MO 63045-1413  
USA

**RR Donnelley & Sons Company**  
77 W. Wacker Dr.  
Chicago, IL 60601-1696  
USA

**Parke-Davis**  
**Morris Plains, NJ**

**Schlumberger GeoQuest**  
**5599 San Felipe, Ste 1700**  
**Houston, TX 77056-2722**  
**USA**

**Pub Merc**  
**San Salvador, El Salvador**

**Bell Harbor Intl Conference Center**  
**2211 Alaskan Way/Pier 66**  
**Seattle, WA 98121-1604**  
**USA**

**Raytheon**  
**Greenville, TX**

**Telamon**  
**Oakland, CA**

**Rogers Company**  
**7550 Tyler Bl.**  
**Mentor, OH 44060**  
**USA**

**The Taylor Group**  
**Decatur, GA**

**Tyco Intl**  
**Chicopee, MA**

**Underwriters Laboratories Inc.**  
**Northbrook, IL**

**Certification Boards Inc.**  
**2170 S. Parker Rd. Ste 295**  
**Denver, CO 80231**  
**USA**

**Uniplan Intl**  
**Cologne, Zeiss-Stv.**  
**Germany**

**Whirlpool Corporation**  
**Benton Harbor, MI**

**Cleveland Range, Inc.**  
**1333 E. 179th St.**  
**Cleveland,, OH 44110**  
**USA**

**Essex Group, Inc.**  
**1601 Wall St.**  
**Ft. Wayne, IN 46801**  
**USA**

**Petroleum Information/Dwights LLC**  
**1633 Firman**  
**Richardson, TX 75081**  
**USA**

**Expo Quarzo**  
**Prol. Calle 18 # 178-B**  
**San Pedro de los Pinos**  
**Mexico City, Mexico C.P. 01180**  
**Mexico**

**Kemper Insurance Companies**  
**1 Kemper Dr.**  
**Long Grove, IL 60049-0001**  
**USA**