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Work Team Strategies

Enhancing Team Development and Organizational Performance

*A Foundation Report for Integrated Capability Engineering
Teams*

Barbara T. Waruszynski

Defence R&D Canada – Ottawa

TECHNICAL MEMORANDUM

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Abstract

Work team strategies are being introduced into organizations to help improve productivity levels, enhance decision-making capabilities, and manage transformational change to enable more effective organizational performance. Researchers are focusing on the importance of team effectiveness, and how individual and team skills are contributing to high performance work teams. Team performance draws on the effectiveness of how individuals within the team contribute to the overall group dynamic in fulfilling organizational objectives. By examining work teams and the strategies that are used for successful organizational performance, this paper proposes some of the key principles for enabling Integrated Capability Engineering Teams (ICE-Ts) to successfully support Capability-Based Planning. This paper investigates the group dynamics of team effectiveness, and focuses on how groups come together and build on their relationships to ensure a successful work team environment. Work team performance is examined, focusing primarily on why teams fail and what are the motivating factors for team success. Several key issues affecting work teams are examined, including: cultural resistance, conflicts, recruitment and selection (including short-termism vs. career planning), empowerment, communication, trust, rewards and recognition, performance appraisals, and training and development. Team building strategies and guidelines are proposed to help work teams assess their own performance criteria for successful group dynamics. Finally, a list of recommendations are put forward to identify the criteria for team success and the lessons learned from team failure to help establish the principal building blocks for effective ICE-Ts within the Canadian defence environment.

Résumé

Les stratégies liées au travail d'équipe sont appliquées dans les organisations pour améliorer les niveaux de productivité, renforcer la capacité de prendre des décisions et intégrer les équipes de projet en vue d'accroître l'efficacité du rendement organisationnel. Les chercheurs mettent l'accent sur l'importance de l'efficacité de l'équipe et sur la façon dont les compétences des personnes et de l'équipe contribuent à son haut rendement. Le rendement repose sur l'efficacité avec laquelle les personnes au sein de l'équipe participent à la dynamique globale du groupe en vue de réaliser les objectifs organisationnels. Cette étude, qui comportait un examen des équipes de travail et des stratégies qu'elles utilisent pour assurer le rendement efficace de l'organisation, propose certains principes clés qui permettront aux équipes intégrées d'ingénierie des capacités (EIIC) d'appuyer avec succès la planification axée sur les capacités. La présente étude explore la dynamique de groupe assurant l'efficacité de l'équipe et se concentre sur la façon dont les groupes se forment et mettent à profit leurs relations en vue de favoriser la création d'un environnement propice au succès. Le rendement des équipes de travail fait l'objet d'un examen, et plus particulièrement les raisons pour lesquelles les équipes échouent ainsi que les facteurs de motivation qui mènent au succès. On se penche sur plusieurs questions primordiales touchant le travail d'équipe, notamment la résistance culturelle, les conflits, le recrutement et la sélection (y compris les affectations à court terme par rapport à la planification de carrière), l'autonomisation, la communication, la confiance, les récompenses et la reconnaissance, les évaluations de rendement et la formation et le perfectionnement. Le document propose des lignes directrices et des stratégies de motivation des membres de l'équipe afin d'aider les équipes à établir leurs propres critères de rendement à l'égard d'une dynamique de groupe efficace. Enfin, on présente une liste de recommandations visant à déterminer les critères de réussite d'une équipe et les leçons retenues en cas d'échec. C'est ainsi qu'on pourra définir les principaux éléments nécessaires à la création d'EIIC efficaces dans le contexte de défense canadien.

Executive summary

Work team strategies are being introduced into organizations to help improve productivity levels, enhance decision-making capabilities, and manage transformational change to enable more effective organizational performance. The evolving research on work teams and team performance is increasingly becoming integral for understanding high performance organizations. For example, research on successful work teams delineates several key principles for sustaining effective work teams, including: proper identification of team leader and team members; communication of team member roles and responsibilities; clearly defined objectives; strong commitment to fulfilling objectives; realistic project plans and schedules; understood team procedures; and effective leadership by the team leader. Ostensibly, researchers are focusing on the importance of team effectiveness, and how individual and team skills are contributing to high performance work teams.

Team performance draws on the effectiveness of how individuals within the team contribute to the overall group dynamic in fulfilling organizational objectives. Understanding the value of these contributions is critical to ascertaining the value of work teams. For instance, impaired team performance has been evidenced by many researchers studying the dynamics of work teams. Their discoveries have led to several principal reasons why work teams fail, namely: teamwork assignments impacting on overall workload; lack of support from senior management in engaging in teamwork; inadequate compensation systems and poor reward systems; lack of empowerment; short-term assignments conflicting with career aspirations; lack of commitment to follow-through; ineffective leadership; unclear and unresolved roles, responsibilities and accountabilities; communication shortfalls; personality conflicts; and lack of trust. Although these reasons for failure may not be surprising, the organizational constraints that may cause these issues are often seen as impossible to overcome. As a result, these reasons have led researchers to further study the group dynamics of work teams and to determine the building blocks that would help to sustain effective work teams.

This paper investigates the group dynamics of team building, and focuses on how groups come together and build on their relationships to ensure a successful work team environment. The focus is on understanding work teams and the strategies that are employed for successful organizational performance within the Canadian defence environment. This paper proposes some of the key principles for enabling Integrated Capability Engineering Teams (ICE-Ts) to successfully support Capability-Based Planning. To broaden the current research on work team strategies, this paper focuses on several key issues affecting work teams, namely: cultural resistance, conflicts, recruitment and selection (including short-termism vs. career planning), empowerment, communication, trust, rewards and recognition, performance appraisals, and training and development. Work team performance is examined, focusing primarily on why teams fail and what are the motivating factors for team success. Performance management and the guidelines that are necessary for more effective team building are also explored in relation to work team strategies. Finally, the paper puts forward a list of recommendations for identifying the criteria for team success and the lessons learned from team failure to help establish the principal building blocks for effective ICE-Ts.

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Sommaire

Les stratégies liées au travail d'équipe sont appliquées dans les organisations pour améliorer les niveaux de productivité, renforcer la capacité de prendre des décisions et intégrer les équipes de projet en vue d'accroître l'efficacité du rendement organisationnel. Apparemment, on compte de plus en plus sur la recherche en pleine évolution sur les équipes de travail et le rendement de celles-ci pour comprendre les organisations à rendement élevé. Par exemple, grâce aux recherches sur les équipes de travail à succès, il a été possible de définir plusieurs principes clés favorisant le maintien de l'efficacité au sein des équipes de travail : une identification claire du chef d'équipe et des membres, la communication aux membres de leur rôle et de leurs responsabilités, une définition précise des objectifs, un engagement solide envers l'atteinte des objectifs, des plans de projet et des échéances réalistes, la compréhension des règles de fonctionnement de l'équipe ainsi qu'un leadership efficace de la part du chef d'équipe. Évidemment, les chercheurs mettent l'accent sur l'importance de l'efficacité de l'équipe et sur la façon dont les compétences des personnes et de l'équipe contribuent à son haut rendement.

Le rendement repose sur l'efficacité avec laquelle les personnes au sein de l'équipe participent à la dynamique globale du groupe en vue de réaliser les objectifs organisationnels. Il est essentiel de comprendre l'importance de cet apport pour déterminer la valeur des équipes de travail. Ainsi, de nombreux chercheurs étudiant la dynamique des équipes de travail ont examiné le rendement d'équipes déficientes. Leurs découvertes ont permis d'établir les principales raisons pour lesquelles les équipes de travail échouent : une participation au travail d'équipe qui empiète sur la charge de travail globale, une haute direction qui n'appuie pas l'engagement à l'égard du travail d'équipe, des systèmes de rémunération et de récompense inadéquats, l'absence d'autonomie, des affectations à court terme qui nuisent aux aspirations professionnelles, un manque d'intérêt à poursuivre les activités, un leadership inefficace, des rôles, des responsabilités et une responsabilisation mal définis et non résolus, un manque de communication, des conflits de personnalité et un manque de confiance. Quoique ces motifs d'échec ne provoquent aucune surprise, les contraintes de l'organisation, qui pourraient être à l'origine de ces problèmes, sont souvent perçues comme impossibles à surmonter. Par conséquent, ces motifs ont incité les chercheurs à pousser plus loin l'étude de la dynamique des équipes de travail et à fouiller en vue de trouver les éléments fondamentaux qui permettraient de maintenir l'efficacité au sein de celles-ci.

La présente étude explore la dynamique de groupe au moment de la constitution de l'équipe et la façon dont les groupes se forment et mettent à profit leurs relations pour favoriser la création d'un environnement propice au succès. L'étude est axée surtout sur la compréhension des équipes et des stratégies employées pour assurer le bon rendement de l'organisation dans le contexte de défense canadien. Ce document propose certains principes clés qui permettront aux équipes intégrées d'ingénierie des capacités (EIIC) d'appuyer avec succès la planification axée sur les capacités. En vue d'élargir la portée des recherches actuelles sur les stratégies d'équipe, ce document porte principalement sur plusieurs questions primordiales touchant le travail d'équipe, notamment la résistance culturelle, les conflits, le recrutement et la sélection (y compris les affectations à court terme par rapport à la planification de carrière),

l'autonomisation, la communication, la confiance, les récompenses et la reconnaissance, les évaluations de rendement et la formation et le perfectionnement. Le rendement des équipes de travail fait l'objet d'un examen, et plus particulièrement les raisons pour lesquelles les équipes échouent ainsi que les facteurs de motivation qui mènent au succès. L'étude examine, en outre, la gestion du rendement des équipes et les lignes directrices nécessaires à la constitution d'équipes efficaces par rapport aux stratégies des équipes. Enfin, le document présente une liste de recommandations visant à déterminer les critères de réussite d'une équipe et les leçons retenues en cas d'échec pour établir les principaux éléments qui feront l'efficacité des EIIC.

Waruszynski, B. 2004. Work Team Strategies: Enhancing Team Development and Organizational Performance. *A Foundation Report for Integrated Capability Engineering Teams*. DRDC Ottawa TM 2004-225. R & D pour la défense Canada – Ottawa.

Table of contents

Abstract.....	i
Résumé	ii
Executive summary	iii
Sommaire.....	iv
Table of contents	vi
List of tables	viii
1. Introduction	1
2. Team Development: A Primer on Group Dynamics	2
2.1. Lifecycle of Groups.....	2
3. Understanding Work Teams and Team Structures.....	5
3.1 Virtual Work Teams.....	6
3.2 Integrated Project Teams.....	10
4. Work Team Performance	14
4.1 Why Work Teams Fail?.....	14
4.2 Why Work Teams Succeed?	17
4.3 Specific Issues Affecting Work Teams	19
4.3.1 Cultural Resistance.....	19
4.3.2 Conflicts	20
4.3.3 Recruitment and Selection.....	21
4.3.4 Empowerment	22
4.3.5 Communication	23
4.3.6 Trust	24
4.3.7 Rewards and Recognition.....	25
4.3.8 Performance Appraisals.....	25
4.3.9 Training and Development.....	26

5	Team Performance Management.....	27
5.1	Guidelines for Team Development	30
5.1.1	Guidelines for Work Team Reports	35
5.2	Building Blocks for Integrated Capability Engineering Teams	35
6.	Conclusion.....	40
	References	42
	List of symbols/abbreviations/acronyms/initialisms	48

List of tables

Table 1 Stages of Group Development.....	3
Table 2 External Barriers to Teamwork (<i>Reprinted with permission, Interaction Associates, 2001</i>)	15
Table 3 Internal Barriers to Teamwork (<i>Reprinted with permission, Interaction Associates, 2001</i>)	16
Table 4 Top Reasons for Team Failure	16
Table 5 Benefits of Successful Work Teams.....	18
Table 6 Multiple Perspectives Assessment System.....	28
Table 7 Rating Team Development (Evaluation Criteria) <i>Permission granted by the University of Nebraska Cooperative Extension</i>	29
Table 8 Steps for Effective Team Building <i>Permission granted by the University of Nebraska Cooperative Extension</i>	30
Table 9 Guidelines for Team Effectiveness <i>Permission granted by the University of Nebraska Cooperative Extension</i>	31
Table 10 Guidelines for Team Self-Correction	33
Table 11 IPT Leader Do's and Don'ts (<i>Reprinted with Permission</i>)— US Department of Health and Human Services (2000).....	34
Table 12 Building Blocks for Integrated Capability Engineering Teams	36

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1. Introduction

Work team strategies are being introduced into organizations to help improve productivity levels, enhance decision-making capabilities, and manage transformational change to enable more effective organizational performance. Two principal team researchers (Katzenbach and Smith, 2003) state that teams perform better than individuals working alone, especially when there is a requirement to work with multiple expertise, opinions and knowledge. Seemingly, the evolving research on work teams and team performance is increasingly becoming integral for understanding high performance organizations. For example, research on successful work teams delineate several key principles for sustaining effective work teams, including: proper identification of team leader and team members; communication of member roles and responsibilities; clearly defined objectives; strong commitment to fulfilling objectives; realistic project plans and schedules; understood team procedures; and effective leadership by the team leader. Evidently, researchers are focusing on the importance of team effectiveness, and how individual and team skills are contributing to high performance work teams.

This paper investigates the group dynamics of team building, and focuses on how groups come together and build on their relationships to ensure a successful work team environment. The aim is to understand work teams and the strategies that are employed for successful organizational performance. These strategies are investigated to help identify some of the key principal building blocks for the development and sustainment of a new team construct...Integrated Capability Engineering Teams (ICE-Ts). To better understand this new team construct, the science of group dynamics is explored, focusing on the lifecycle of groups...*how teams actually come to be*. Examples of team structures are put forward to understand the dynamics and challenges experienced by team members, individually and as part of a group. The criteria for team success and the lessons learned from team failure are examined to further appreciate the enablers and barriers to work team strategies. Work team performance is explored, focusing specifically on why teams fail and what are the motivating factors for team success. Several issues that impact on high performance organizations are addressed, including: cultural resistance, conflicts, recruitment and selection (including short-termism versus career planning), empowerment, communication, trust, rewards and recognition, performance appraisals, and training and development. The paper also explores team performance management and the principal guidelines that are necessary for more effective team building. Finally, the paper puts forward a list of recommendations for identifying the conditions for team success and the lessons learned from team failure to help establish the principal building blocks for effective ICE-Ts.

2. Team Development: A Primer on Group Dynamics

The *Science of Group Dynamics* is primarily rooted in the disciplines of sociology and psychology. Sociologists have been exploring the area of group dynamics, focusing primarily on group size, structure, communication (e.g., intercommunication and interaction), norms, cohesion, leadership, competition, conformity, conflict and cooperation. The psychology of group dynamics is primarily rooted in social psychology. Social psychology focuses on understanding the behaviour of groups, specifically within “group interactions, cohesiveness of groups, leadership and group decision processes” (Wolman, 1989).¹ For both sociologists and psychologists, the study of social groups focuses primarily on “two or more people who interact in patterned ways”, and share common “interests and expectations” (Thompson and Hickey 2002, 139).

The definition of *group* can be defined as: “two or more individuals who influence each other through social interaction” (Forsyth 1990, 7). The six main characteristics of dynamism within groups focus on interaction, structure, size, goals, cohesiveness and temporal change (Forsyth 1990, 8-12). *Interaction* focuses on how groups influence one another (e.g., physical, verbal, nonverbal and emotional interaction). *Structure* examines the primary archetypes of steady relationships among members in group interaction (e.g., roles, status and communication networks). *Size* has an indirect effect on group dynamics (i.e., the size of a group has an indirect influence on the structure and dynamic of the group). *Goals*, on the other hand, represent the drivers for coming together in a group formation (i.e., common goals unite people into groups). *Cohesiveness* focuses on the strength of the relationships within the group (e.g., cohesiveness through group norms, task performance and satisfaction within groups). Finally, *temporal change* refers to the changing nature of groups (e.g., group development and socialization). These characteristics help to further understand the lifecycle of groups and their contributions to effective work team strategies.

2.1. Lifecycle of Groups

Theories on team development have been noted by many researchers studying the efficacy of work team strategies. The classic lifecycle of groups evolve around a four stage process, namely: forming, storming, norming and performing. This four stage team development model was developed by an educational psychologist—Bruce Tuckman (1965). By examining Table 1, groups become successful once they know what stage they are in, and how they will transition from one stage to the next. In conjunction with Mary Ann Jensen, Tuckman further refined the model to include a fifth stage—*adjourning*, which involves a sense of completion and disengagement from the group.

¹ Aubrey Immanuel (1996) provides a comprehensive understanding of the science of group dynamics. The definition of group dynamics is taken from *The Science of Group Dynamics, Chapter 1*.

Table 1 Stages of Group Development

Forming: “In the early *forming stage*, the group is a collection of individuals, each with his/her own agenda and expertise, and little or no shared experience.”

Storming: “As these individuals become more familiar with one another, they will almost certainly enter a *storming phase* where personal values and principles are challenged, roles and responsibilities are taken on and/or rejected, and the group’s objectives and way of working together are defined.”

Norming: “At the *norming stage*, the group has settled down and developed a clear identity. The members have begun to understand their roles in relation to one another and establish a shared vision or goal. People know each other better; they have accepted the rules and probably developed little sub-groups.”

Performing: “Once these norms have been established, the group will be ready to focus on output and will enter the *performing phase*. It is in this phase that they will work most effectively as a team. The confidence level of the team will have reached the point where they are willing to take significant risks and try out new ideas on their own.”

Source on the Four Stages: PLA Notes (1997), Issue 29, pp. 92-94, IIED London. Reprinted with permission. Originator: Tuckman, B.W. (1965). Developmental sequence in small groups. Psychological Bulletin, 63, 384-399.

Adjourning: Once the group completes its overall objectives, team members start to disengage from the group. This is a time to reflect on the achievements and lessons learned.

Source on the Fifth Stage: Tuckman, B. and M. Jensen. (1977). “Stages of small group development.” Group and Organizational Studies, 2, pp. 419-427.

The *forming stage* involves the orientation of team members. In this stage, members are excited about their role as a participant and what contributions they will make to the overall team. Understanding how leadership will operate and how the group will come together to work as a team are both critical at this stage.

As the team moves forward into the *storming stage*, it may begin to experience some adjustment anxiety and may exercise differences of opinion/conflict (e.g., how the team will operate). This is a crucial phase where it will be important for team members to listen to each other, resolve any conflicts and understand a shared way ahead (e.g., common vision and mission). Otherwise, mistrust and conflicts arise that may prevent the team from moving into the next phase.

Once the team agrees to the way that it will operate, it enters the *norming stage*. At this stage, cohesion of team members leads to a clear understanding and acceptance of how members will operate as a team. Team members start to cooperate, and feel that they could collaborate

and contribute to team discussions. The team realizes that they are able to work effectively within the team structure.

The *performing stage* is reached once team goals have been accomplished. Good relationships are maintained and one's loyalty and trust starts to reach solid ground. The team is able to tackle complex issues and achieve team goals successfully. Cohesiveness and teamwork enable the team to attain its goals through effective leadership. Team performance is assessed at the end of this stage.

The final stage, *adjourning*, involves feelings of disengagement, especially as the team members start to go back to their respective units/organizations. The team has accomplished the tasks; and as a result, there is a termination of roles and responsibilities. This is a good time for reflection and communication of lessons learned with team members.

It is usually up to the team leader to help transition the group through these five stages. "Activation energy" is the term used to help progress a group from the storming and norming stages to the high performing stage (Gadeken, 2002). To help achieve these goals, Katzenbach and Smith (2003) assert that the team leader must work on achieving the following six skills, namely: (1) maintain a relevant purpose, goals and approach; (2) foster confidence and commitment, both individually and as a team; (3) build up the level and mix of skills within the team; (4) maintain healthy team relationships internally and externally; (5) establish opportunities and assignments for team members; and (6) conduct relevant work. These skills are fundamental to achieving top performance by team leaders, and are carried throughout the five stages of team development for enabling successful team structures and group dynamics.

3. Understanding Work Teams and Team Structures

Team development is recognized across organizational structures as an important ingredient for effective work team strategies. To better understand work teams and team structures, it is important to define what is meant by a “team”. Salas, Dickinson, Converse and Tannenbaum (1992, 4) define the concept of team as “two or more people who interact dynamically, interdependently, and adaptively toward a common and valued goal/objective/mission”, focusing on a specific assignment of roles and responsibilities within a limited period of time. Katzenbach and Smith (2003) define the concept of team as a group of individuals with complementary skills who hold themselves *mutually responsible and accountable* for achieving their common objectives (including, a common purpose, performance goals and approach). Shared leadership, joint commitment and responsibility and self-direction are integral elements that enable cross-functional specialists to work within a self-managed work team environment. Accordingly, the main difference between a “true” team (whether functioning face-to-face in close proximity or as a virtual reality team through rapid communication channels) and a “conventional work unit” is contingent on: (1) having a shared purpose, goals and approach; (2) maintaining a mix and complementarity of skills; and (3) recognizing the importance of accepting a “joint responsibility” (Windsor 2000, 147).

The concept of teams has been evidenced in many organizations, including the military, government, businesses and communities; yet, there are many perceptions and misconceptions of the terminology of teams. Katzenbach and Smith (2003) outline their “team performance curve”, describing five key points of the definition of a team, namely: working group, pseudo-team; potential team; real team; and high-performance team. For instance, many organizations equate *working groups* with teams. However, there remain critical differences between working groups and teams. For instance, working groups focus on hierarchical structures, individual roles and responsibilities, individual accountability, individual performance goals and individual recognition based on performance targets (Katzenbach and Smith, 2003). Although working groups can be effective within organizations, they do not espouse team principles: they remain individually-based. Teams, on the other hand, differ from working groups. They call for “both individual *and* mutual accountability” (Katzenbach and Smith 2003, 89).

Pseudo-teams are the most ineffectual of all the groups with respect to “performance impact”. These teams do not concentrate their efforts on collective performance or a common set of goals.

Potential teams represent groups that focus on important “incremental performance needs”, where the team members are conscientious of progressing their overall “performance impact” (Katzenbach and Smith, 2003). These groups require greater clarity of common objectives, goals and work products. As a result, potential teams need to pay more attention to establishing a “common working approach” and “collective accountability”.

Real teams focus on the bottom line—tangible performance targets and results. Individual behavioural change is linked to high performance (Katzenbach and Smith, 2003); and as a

result, the dynamics of team performance are contingent on “people working together” to achieve a common vision.

High-performance teams encompass all of the conditions set out in real teams, and have team members who are supportive of each other’s personal development and achievements (Katzenbach and Smith, 2003). A high-performance team outperforms all other teams, and represents the ideal model for real and potential teams. The focus is on maintaining the following criteria, including: balanced performance goals and results; concise and exciting objectives; dedicated and decisive leadership; a highly motivated work force committed to enhanced productivity and knowledge; core skills and competencies for competitive advantage; and effective communication channels and knowledge management (Katzenbach and Smith 2003, 250-254).

To better understand the team dynamic, Lefton and Buzzotta (2003) define four basic patterns to teamwork that represent four team types: hierarchical, formalistic, circular and teamwork. Hierarchical focuses on downward control by a team leader and discourages collaboration. Formalistic teams do not engage in teamwork; rather they favour traditional and routine processes. Circular teams focus on being a team and whatever it takes to make a team work. Teamwork focuses on effective leadership which engages all team members to be engaged in work team discussions, problem-solving and decision-making—as one dynamic team. Taken together, a team represents a ‘social structure’; while teamwork focuses more on ‘cooperative behaviour’ (Zigon 1995). As a result, “teaming represents a shift from supervised individual activity to empowered group action” (Windsor 2000, 140).

The next section introduces the concepts of virtual work teams and integrated project teams, and focuses primarily on the team structure and the group processes that enable teams to work within a collaborative environment.

3.1 Virtual Work Teams

The concept of virtual teams has sparked great enthusiasm among organizational communities, especially companies that work within team-oriented structures and are geographically dispersed. According to Jude-York, Davis and Wise (2000), the fast pace of global competition and the evolving nature of worklife (e.g., partnerships and alliances, cross-organizational teamwork, decentralized decision-making, knowledge sharing and leveraging, cost savings and distance learning) have all contributed to the development of the virtual team concept. Virtual teams can work from anywhere and at anytime. Costs associated with travel (e.g., air fares, car rentals, lodging) are substantially reduced, thereby making the concept of virtual teaming highly beneficial from a business process perspective.

Many researchers are investigating the concept of virtual work teams, focusing on the people, process and technologies to support the collaborative team environment.² For example, supporting virtual team awareness needs among globally distributed student

² See Waruszynski (2003) on *Enabling Collaborative Capability through Virtual Teamwork: The Way Ahead*. Defence R&D Canada, Technical Memorandum 2003-217 for a more thorough understanding of virtual teamwork.

engineering design teams has been investigated by Jang, Steinfield and Pfaff (2000)³. The project is known as the International Networked Teams for Engineering Design (INTEnD), where eight teams of engineering students (ranging from five to nine students per team) from schools in Asia, United States and Europe worked on industry-sponsored design projects over a four month period. The majority of the team members have never met face-to-face and relied mostly on emails, ISDN videoconferencing and Internet collaboration-based tools (e.g., NetMeeting). These researchers focused on the development of TeamSCOPE, a Web-based collaborative system designed to respond to the awareness needs (i.e., information problems) of virtual team members. TeamSCOPE incorporated several key functions, including: file manager, message board (e.g., threaded discussions), calendar, activity summary, activity notification, team member login status, team member usage information and a team summary site. Conceptualizing awareness focused on four specific types of 'awareness deficits' experienced by the virtual teams, including: (1) lack of awareness of what other team members were doing on a day-to-day basis; (2) lack of awareness of each other's availability (e.g., poor real-time communication, and scheduling and coordinating group meetings); (3) lack of awareness of team processes (e.g., understanding each other's deadlines and task requirements); and (4) lack of team perspective awareness (e.g., understanding different team-mates' perspectives).

In evaluating their results, these researchers used system logs to identify the frequency with which team members used TeamSCOPE; a questionnaire at the end of the project asking team members to rate TeamSCOPE; and open-ended interviews and observations with teams to help supplement the initial findings. Based on the system logs, there was variable usage of TeamSCOPE across the teams. By examining the provision of awareness related information features (i.e., activity summaries, calendar and the user login information feature), approximately half of the teams used TeamSCOPE at the beginning of the project; however, usage of the tool was reduced significantly towards the end of the period. Questionnaire data revealed that a high majority of the teams rated the shared file space (i.e., shared repository) as the most useful feature; however, the calendar feature was not very useful. Problems in organizing a directory of shared files was experienced by team members (i.e., team members created their own directories which were not intuitive to others). The lack of a consensual directory structure (based on a common language for shared retrieval) made it more difficult for team members to navigate through the directories in search of specific files. Based on their interviews and observations, these researchers noted that team-mates also experienced ambiguity in assessing the nature of the awareness information (e.g., team-mates were not fully aware whether other members who downloaded their work actually read or understood it). Regular email was considered to be important, and generally preferred over message postings (i.e., groups didn't appreciate logging into a separate application to check their email). Finally, the use of TeamSCOPE was dependent on critical mass effects (i.e., if some team members stopped using TeamSCOPE and only used email, then the teams would have had to use the email system to disseminate their work). Thus, task

³ For the purpose of this paper, the results of this study are kept to the main findings. More comprehensive findings should be examined by reading the research paper conducted by Jang et al (2000).

interdependence had an impact on the reliance of TeamSCOPE (i.e., minimizing interdependence with remote team-mates).

Another example of the virtual team concept focuses on teams who came from two large United States corporations specializing in high-tech computers and communications. Jude-York (2003) examined three teams and how these teams employed technology to enhance team productivity. These corporations have global sites with personnel working within virtual environments. Innovative socio-technical models were presented to the teams to help enhance team productivity (e.g., improve collaborative work processes) and business results. Based on the consultants' observations and interviews with team members, "two of the teams stated improvements in building upon each other's work, aligning work around business plans, decreasing cycle times and minimizing face-to-face meeting time;...and the third team struggled in building their 'social system' to include remote members and in achieving the results chartered in their mission" (Jude-York, 2003). The teams were introduced to groupware technology (i.e., computer applications designed to enhance collaborative work), followed by a two-day session which included technical training, team development, and individual and team coaching. The groupware technology (e.g., Web-based chat and reference rooms, TeamRooms using Lotus Notes (e.g., team members can store and work on common documents, send emails, categorize information, filter incoming messages, disseminate information and communications to group lists, dialogue electronically, and focus on the most pertinent information). The researchers put forward the following findings and observations of the three teams:

The *first team* was a small, fast-paced interdependent group of professionals responsible for facilitating the initial roll out of TeamRoom in a large computer organization. The team members worked very diligently to ensure that all objectives and commitments were met to fulfill their team mission. This team progressed successfully through the forming phase of group development and experienced a few challenges during the storming phase (e.g., resolving conflict without face-to-face interaction). The need to listen to one another and to understand the different perspectives of each team member were both critical to high performance for this team.

The *second team* was comprised of a group of 15 senior leaders representing a technology support organization in the telecommunications industry. These members were located in different buildings within a 25 mile radius. This team focused on email and groupware technology. These members were able to assign themselves stewardship for particular activities, put together sub-teams for key initiatives, and were able to focus on providing status requirements (e.g., creating Action-Open status reminders for due deliverables). Although this process was beneficial, it did interfere with the shifting of priorities and with taking additional time to provide status updates.

The *third team* was comprised of 11 project team members responsible for leading an innovative organizational change initiative. Nine of the team members were located in one office building, while the remaining two

worked in another country. This team acted as the pilot team for TeamRoom. The members experienced a high degree of camaraderie and caught on to the TeamRoom as a valuable tool for information sharing and connectivity (e.g., ability to raise issues for discussion, provide comments to members and plan agenda topics). Co-located members moved very well within their collaborative environment, while the remote workers had a difficult time connecting to the group (i.e., the collocated team members did not readily invite the remote members into their social system). In addition, although the roles and performance objectives were clear, tasks associated with responsibilities and ownership issues were ambiguous. Even though the team met frequently, the frequency of meetings “did not facilitate the rapid coordination of work efforts to achieve milestones (e.g., productivity).” Boundary issues interfered with the inclusion of distributed members (e.g., co-located teams were less inclined to collaborate with others outside the team).

These two examples provide a description of the virtual team concept and some of the fundamental issues surrounding distributed team success. For example, researchers have noted that successful collaborative teamwork is best developed and maintained at the human, face-to-face level rather than distributed networks. The lack of face-to-face interaction in virtual teams can lead to ineffective coordination and communication, which in turn, can impact on overall team effectiveness and trust (Jarvenpaa, Knoll and Leidner, 1998; Jarvenpaa and Leidner, 1998). Accordingly, it is important for team members to have face-to-face sessions, especially if they are meeting each other for the first time. Katzenbach and Smith (2001) state that face-to-face sessions are important to enable real-time problem solving. Virtual meetings, on the other hand, are implemented for information sharing, and for maintaining contact and momentum during the in-between face-to-face meetings.

Another example focuses on team leadership. During virtual team sessions, it is important for team leaders to build team commitment, confidence and a collaborative spirit. According to some researchers (Jarvenpaa and Leidner, 1998), successful virtual team leaders and their teams need to engage in a clear definition of team responsibilities, regular and predictable patterns of communication, complementary objectives and clear team goals, strategy for handling conflict, and careful selection of members for virtual teamwork (e.g., potential members who demonstrate responsibility, accountability, dependability, independence and self-sufficiency).

These examples are explored further in this paper and are depicted as critical elements to effective work team strategies. The move from technologically-oriented Internet research to sociologically-based Internet research [including collaborative research] is becoming more fundamental as organizations are realizing the importance of social interaction and social organizational team structures (see Kollock, 1996)⁴.

⁴ Peter Kollock of UCLA’s Center for the Study of Online Community explains: “The key challenges the Internet community will face in the near future are not simply technological, but also sociological: the challenges of social interaction and social organization. This is not to diminish the difficulties of creating new technologies, but rather to emphasize that even these tasks will pale beside the problems

The next section focuses on Integrated Project Teams and some of the principal challenges that are faced by this team structure.

3.2 Integrated Project Teams

Integrated Project Teams (IPTs) denote a fundamental change in culture, processes and relationships for most organizations. These teams represent cross-functional, multi-disciplinary teams (with complementary skills) committed to managing a project from concept to disposal. Integrated Project Teams can be traditionally based (i.e., co-located) or distributed (i.e., virtual), and rely on the ‘integration’ of the efforts stemming from all contributors for a given project. There are many definitions of IPTs, including:

- *A single team focused on a common set of goals and objectives delivering benefit for all concerned.*⁵
- *A team, with no apparent boundaries, in which all the members have the same opportunity to contribute and all the skills and capabilities on offer can be utilised to maximum effect.*⁶
- *Cross-functional teams formed to integrate and concurrently apply all necessary processes to provide a product or service that meets internal and external customers’ needs.*⁷

With a skilled IPT leader, members within this work team structure focus on a common purpose, project objectives and approach for which team members hold themselves mutually responsible and accountable. The main tenets of successful IPTs include: effective leadership and members; clearly defined objectives, roles and responsibilities; decision authority and empowerment; a conflict resolution process; issues raised and addressed early; and respect of others’ views and contributions. To be successful at forming and leading these teams, it is important to “develop IPT structures and processes along with IPT members that possess complementary skills and are committed to a common purpose, performance objectives, and approach for which they hold themselves mutually accountable” (Evans, 2004).

There are many benefits that have been documented by researchers who have studied IPTs. For instance, Skilton and Smith-Daniels (2000) studied organizations in which

of facilitating and encouraging successful online interaction and online communities.”⁴ Peter Kollock, Address, “Design Principles for Online Communities”. Harvard Conference on the Internet and Society. (1996). URL: <http://www.sscnet.ucla.edu/soc/faculty/kollock/papers/design.htm>. In J.L. Carpenter’s (1998), “Building Community in the Virtual Workplace,” URL: http://cyber.law.harvard.edu/fallsem98/final_papers/Carpenter.html.

⁵ See Strategic Forum for Construction on Integrated Project Teams (2003). This organization has a complete toolkit on integrated project teams, focusing on the IPT process cycle and IPT stages. http://www.strategicforum.org.uk/sfctoolkit2/ipt_workbooks/00.html.

⁶ Ibid.

⁷ Marcus Evans Professional Training. (2004). Establishing and Leading Integrated Project Teams. URL: <http://www.marcusevansprofessionaltraining.com/Html/courseindex.asp?recID=65>.

the development of new products using IPTs appeared to have ‘reduced the development time, lowered total costs, and enhanced innovation, quality, reliability, market success and customer satisfaction.’ Specialized skills sets and lateral skills (i.e., integration skills, breadth of technical knowledge, know-who knowledge, and social skills) were required to adapt and integrate individual expertise among team members.

Moreover, Archibald (2001) puts forward five main criteria for ensuring successful team performance within IPTs, including: (1) proper identification of team leader and team members, and every member’s responsibility to the initiative; (2) clearly delineated and understood objectives; (3) realistic project plan and schedule; (4) understood team procedures; and (5) effective leadership by the team leader. By examining the concept of IPTs, Archibald (2001) states that project managers often fail to identify their team members to ensure that everyone is aware of who is on the team, including their roles and responsibilities. As a result, it is integral to have documentation that clearly outlines the team members, and their roles and responsibilities. Although the project objectives are usually communicated before team members are chosen, “experience has demonstrated that a team effort is required to clarify, expand on, and quantify these initial project objectives, with input as appropriate with the project customer, to produce a statement of objectives that all members of the team understand, accept and are committed to” (Archibald 2001).⁸

The Office of Government Commerce (OGC)⁹ in the UK has also put forward its procurement guide for IPTs in achieving excellence in construction. Their main focus is on the implementation of IPTs, delineating the importance of teamworking and partnering. These IPT members concentrate on organizing and integrating their roles and responsibilities to enable them to work collaboratively. According to OGC (2003, 6), the “team culture is characterized by openness, clearly understood mutual objectives, problem-solving, a commitment to continuous improvement (measured against Key Performance Indicators) and mechanisms for managing risks and sharing rewards.” In assembling an IPT, there should be evidence of:

- *senior management commitment to partnering in the team*
- *staff in the integrated project team with experience in the culture of partnering and teamwork*
- *commitment to openness and shared accountability*
- *commitment to collaborative working*

⁸ Russell D. Archibald focuses on Integrated Project Team-Working, with a specific focus on the requirements for effective teamwork. See URL: <http://www.maxwideman.com/guests/ceo/team.htm> .

⁹ See the Office of Government Commerce (2003) *Achieving Excellence in Construction Procurement Guide 05: The Integrated Project Team: teamworking and partnering* for additional information on teamworking and partnering for IPTs.

- *commitment to measuring performance against Key Performance Indicators, where appropriate, to ensure continuous improvement*
- *proven capability and capacity to deliver the required quality*
- *ability and commitment to improve quality, deliver on time and reduce whole life costs through innovation.*¹⁰

The performance of IPTs within the construction industry has led researchers to report that despite the benefits of integration, there are significant cultural and professional interface issues that impede team performance and demoralize structural change practices (Moore and Dainty, 1999). For example, within a large construction project that focused on designing and building a distribution centre in the UK, cultural issues were grounded within a traditional operating framework. Issues revolved around project management, where the project manager role had changed twice before the construction phase had started. In addition, communication between key players (e.g., construction management team, design team members) was dysfunctional (e.g., a design team member refused to deal with the construction team, causing the design team leader to act as an intermediary). This stemmed primarily from the inconsistency of project group membership, particularly the changes in project management. The inability to integrate new project group members and the group's diverse physical location all contributed to poor communication practices. The researchers put forward recommendations to study intra-team cultures to help mitigate barriers to team efficiency. The need to focus on professional, communicative and attitudinal interfaces to further prevent negative impacts on information flow, problem-solving and avoidance of efficiency problems was also recommended (Moore and Dainty, 1999).

A major element of the IPT learning experience is the need to share and document the lessons learned so that others may be able to benefit before embarking on new projects. As a result, participant learning within IPTs is integral to the formation of strategic capabilities (Skilton and Smith-Daniels, 2000). *Celebrating successes* also represents an essential element for implementing successful IPTs. The importance of celebrating successes “helps team members to see that being part of this process enables them to deliver superior performance and additional value, meeting needs in a way that previous projects were unable to do” (Strategic Forum, 2003).¹¹ Examples include promoting individuals and teams, and reaching out to industry for marketing and communicating successful collaborative approaches in meeting project or organizational objectives.

The relationship between specific types of learning by IPT members and the formation of new strategic capabilities is integral to understand. Skilton and Smith-

¹⁰ These criteria are evidenced in integrated project teams and integrated supply teams. According to OGC (2003), teaming and partnering are integral to IPTs.

¹¹ See Strategic Forum for the construction of Integrated Project Teams (2003). This organization has a complete toolkit on IPTs, focusing on the IPT process cycle and IPT stages.
http://www.strategicforum.org.uk/sfctoolkit2/ipt_workbooks/06.html .

Daniels (2000)¹² question the importance of forming strategic capabilities through the use of IPTs in relation to retaining the lessons learned by IPT participants and diffusing them to the rest of the organization (especially to participants in future IPTs). This approach will ensure greater performance by the team members and will help to better understand the useful skills and knowledge to help future IPTs.

¹² According to these researchers, a capability is “the capacity for a set of resources to integratively perform a task or activity” (Hitt, Ireland and Hoskisson, 1997, 21).

4. Work Team Performance

The foundations of performance management research have focused primarily on individual rewards for good performance (e.g., bonuses and salary raises), particularly during the annual performance appraisal process. However, the majority of business models underpinning the 'organization of the future' are based on the concept of teams surpassing individuals as the key performance measure within organizations (Katzenbach and Smith, 2003). Moreover, advances in trends and research for understanding effective work teams strategies are steering toward a more comprehensive assessment of team performance and the variables which may influence group performance. Research indicates that "competition is counterproductive" in a setting where team members must work together to accomplish their objectives (Barriere, Kaplan and Metlay, 2000). In an earlier study, Deutsch (1949) focused on the manipulation of rewards under conditions designed to stimulate either competition or cooperation among students, and discovered that cooperative groups produced projects of higher quality and quantity than those who were rewarded individually. Similarly, Mitchell and Silver (1990) discovered that groups who were given a 'group goal' collaborated with each other far better than groups who were given 'competitive goals'. Barriere et al (2000) also point out that research studies have indicated that 'group rewards result in higher performance than individual rewards' (Johnson and Johnson, 1989; Johnson, Maruyama, Johnson, Nelson and Skon, 1981; Miller and Hamblin, 1963).

Collaboration and teamwork represent successful organizational practices which help to create a high performance organization. Collaboration goes well beyond information exchange: it represents a "complex problem-solving process in which people strive toward one or more common goals, seek to understand each other's perspectives, and share ideas that stimulate the thinking of others" (Gumpert, 2003).¹³ In defining successful work team strategies, it becomes integral to understand the principal ingredients for effective work teams....*what works and what doesn't work* in team development and organizational performance.

4.1 Why Work Teams Fail?

Examples of team development can be found within many organizational settings; however, sometimes businesses resign themselves away from the team concept (e.g., changes in management, business demands focused on the short term and overall investment in team development) (Beyerlein, Johnson and Beyerlein, 2000). It becomes important to assess whether a team approach is the most beneficial approach for enhancing organizational performance. According to leaders in team development and organizational performance, teams should be used when the overall performance objective is based on shared, cooperative work and leadership, including the need to integrate multidisciplinary skills, experiences and knowledge (Katzenbach and Smith, 2003). If the decision is to take a team approach, then the main objective of any team initiative should focus on the "members' collective performance" as opposed to an obscure perception of working as a team (Katzenbach and Smith, 2003).

¹³ See Peter Gumpert. MITRE. (2003). Focus on collaboration as the secret ingredient. See URL: http://www.mitre.org/news/the_edge/fall_03/gumpert.html.

Otherwise, improper use of the “team discipline” (Katzenbach and Smith, 2003) can result in poor organizational performance.

Impaired team performance is evidenced within many organizations, and researchers are discovering that there are several principal reasons why teams fail. For example, Interaction Associates (2001) focused on the development and support needs that may impact on the success of teams. These researchers conducted telephone interviews with team leaders, team members, managers responsible for setting up teams and human resources managers from Fortune 500 companies. In addition to these interviews, 3000 organizations were surveyed using a mail questionnaire (with a 13.5% response rate). Respondents belonged to organizations that ranged from 1,000 to 10,000 employees and came from various industries, including: manufacturing, finance, health, electronics, transportation, utilities, government and services. By examining Table 2, the results reveal that the primary external barriers to teamwork include: teamwork assignments impacting on overall workload (65%); lack of support from senior management in engaging in teamwork (65%); and inadequate compensation systems (49%). Lack of empowerment was closely related (45%), stating that team managers did not release appropriate controls for decision-making capabilities.

Table 2 External Barriers to Teamwork (Reprinted with permission, Interaction Associates, 2001)

External Barriers	% of Respondents
Team members are often required to work on their team assignments in addition to a full workload	65%
Management does not model the principles and behaviours that support teams in being successful	65%
Compensation systems do not adequately reward teamwork and individual team members	49%
Team leaders and/or managers do not release appropriate control to team members	45%
Teams are not given adequate resources	37%
Changes in the organization cause frequent changes in team membership	29%
Team members resist taking responsibility for tasks traditionally performed by management	28%
Teams are not well chartered	28%
Team assignments are not aligned with business strategies	20%
Teams are given more work than they are capable of handling	12%

Table 3 provides an overview of the internal barriers to teamwork.

Table 3 Internal Barriers to Teamwork (Reprinted with permission, Interaction Associates, 2001)

Internal Barriers	% of Respondents
Team members don't influence and get support from key external stakeholders	50%
Team members don't set appropriate goals for the team and then build and implement a plan for reaching them	48%
Team members don't spend enough time planning how they will work together	42%
Team members don't know how to reconcile differences or resolve interpersonal conflict	42%
Teams members don't conduct efficient meetings that produce results	40%
Team members don't have compatible levels of problem-solving, analytic, or project management skills	38%
Team members don't know how to influence the work of other team members	35%
Teams members don't have consistent or clear team leadership	31%
Team members don't make decision effectively as a group	27%

Similarly, in Table 4, Cooke (1999) outlines the top ten reasons why teams fail.

Table 4 Top Reasons for Team Failure

Top Ten Reasons Why Teams Fail
<ol style="list-style-type: none"> 1. Lack of urgency 2. Lack of/conflicting measures 3. Poor reward systems 4. Business barriers 5. Anti-team culture 6. Ineffective leadership 7. Unresolved roles, responsibilities and accountabilities 8. Communication shortfalls 9. Personality conflicts 10. Lack of trust

Many of the above examples can be attributed to specific fundamental issues arising from the organizational infrastructure itself. According to Katzenbach and Smith (2003 20-24), resistance to a team approach arises from three primary sources, including: (1) a lack of confidence/belief that the team approach is the best approach; (2) individual concern and risk to a team approach; and (3) inadequate performance ethics within the organization which discourage people from wanting to work within a team environment. Organizations which advocate teamwork and collaboration, on the other hand, need to continuously align their value system with a culture that promotes a team discipline approach (see Katzenbach and Smith, 2003). As such, promoting teamwork values is critical to sustaining healthy work teams, and is essential to attaining a better understanding of how organizations can create high performance teams.

4.2 Why Work Teams Succeed?

In their book entitled, “The Wisdom of Teams,” Katzenbach and Smith (2003) focus on recent changes within the context of teams; what they have learned about team performance; and what the future holds for teams and leaders. Once an organization is committed to taking on a team approach, it begins to promote the teamwork values that are fundamental to the entire company. Katzenbach and Smith (2003, 12-15) have highlighted four valuable lessons on the “wisdom of teams”, including: (1) meaningful performance challenges can energize teams; (2) a strong performance ethic by organizational leaders can generate successful team performance; (3) individualism should not interfere with team performance; and (4) a team discipline approach paves the roadmap for team performance. Moreover, there are several guiding interdependent principles¹⁴ that will enable work teams to perform more effectively. These principles include: committed leadership (i.e., focus on needs, people, benefits and maintain vision); culture and values (i.e., empower people, share the learning, communicate openly, build trust and integrity, and lay no blame); and processes and tools (i.e., early involvement, common processes and tools, performance measures, and long term relationships and agreements). Many of these principles are summarized in Table 5.

¹⁴ See the Strategic Forum for the Construction Integration Toolkit URL: <http://www.strategicforum.org.uk/sfctoolkit2/help/principles.html> .

Table 5 Benefits of Successful Work Teams

Organizational/Process Benefits
Effective leadership and visioning—focus on common goals and outcomes (systems thinking)
Aligned value system (core values) with a culture that promotes work team strategies
Enhanced communications
Improved problem-solving techniques and outcomes
Cohesive and value-added work team environment through effective team-building
Clear communication of accountabilities for all work team members
Effective conflict management process
Integration of ideas and improved decision-making capabilities
Enhanced technological applications and collaborative integration
Cultural/strategic change through effective leadership
Team Rewards and Recognition programs
Performance Appraisals: High value on career-based performance measurement of all team members
Improved morale
Individual Team Member Benefits
Individual and team leadership
Individual/personal growth; professional growth; career planning
Trust (development of trusting relationships)
Empowerment
Motivation
Team collocation (being a part of a team)
Team-building (e.g., communication and sharing of ideas)
Individual skills for team performance (including interpersonal skills)

The above table clearly illustrates the potential benefits that can be derived from effective work teams. These benefits can also be hindered by specific issues, which in turn, could affect the integrity of work team structures. The next section focuses on several integral issues that may significantly impede team development and team effectiveness, and also proposes recommendations for enabling and supporting high-performance teams.

4.3 Specific Issues Affecting Work Teams

Based on the current literature, there are specific issues which may have an impact on effective team performance, namely: cultural resistance, conflicts, recruitment and selection (including short-termism versus career planning), empowerment, communication, trust, rewards and recognition, performance appraisals, and training and development.

4.3.1 Cultural Resistance

Resistance to change is not a new phenomenon. In fact, most organizations find it very difficult to implement new changes to their organizational structure as a result of any resistance to change (see Cooke, 1999). For example, *“leaders who lead change using a command and control style often trigger this type of resistance due to misunderstanding the impact their change process plans have on the people who must carry them out. These leaders often create change efforts that are fraught with inadequate communications, low participation, minimal local control and insufficient training”* (Anderson and Ackerman-Anderson, 2002). As a result, it is important to better understand the dynamics of cultural resistance and the impacts on senior management and employees.

According to change management leaders, *“dealing with resistance in positive ways is one of the highest impact strategies for accelerating your change effort and lowering its ultimate cost”* (Anderson and Ackerman-Anderson, 2002). For example, instilling a culture based on collaboration and teamwork takes time to evolve, and there may be resistance to change working habits (e.g., fear of change; need to compete; work alone). According to one company, *“the transformation starts with overt and purposeful actions that accelerate acceptance of this culture attribute and eventually ends when collaboration becomes an automatic reflex”* (IBM 2003, 12). This transformation involves changing organizational artifacts, norms, beliefs, behaviors, values, assumptions and management/leadership styles—the cultural elements that support collaboration, interpersonal relations, team building and cohesiveness.

Although organizations are living in a constant period of transition, researchers are interested in examining the culture change within the workforce and its impact on work team strategies (e.g., Allen 1998, Jones and Beyerlein, 1999). The focus is on *where* and *how* do cultural differences emerge (e.g., within organizational leadership, communication, work practices or personal interests). For example, Cooke (1999) asserts that some organizations can portray an *anti-team culture*, where the focus is on traditional, hierarchical and functional management structures which hinder team dynamics. The intent, however, is for management to move away from a lack of commitment and embrace an effective roadmap that would successfully

integrate work team values for sustainable culture change (e.g., building a corporate culture for teamwork). The concept of teams may not be the ultimate answer to all organizational needs; however, it is important to realize that teams help to support the diverse changes that are required for high-performing organizations (Katzenbach and Smith, 2003). The benefits of change could be explored, focusing on continuous strategic change as an ideal catalyst for improving performance (risk mitigation). As such, it is important to understand the cultural, political and practical implications for minimizing cultural resistance, and the role of leadership in helping to define the way ahead for implementing successful work teams. From a performance perspective, it becomes integral to assess the impacts of organizational culture on work team behaviours, motivation and overall job satisfaction.

4.3.2 Conflicts

Conflicts among groups or individuals may be primarily due to “institutional affiliations, ideological or political alliances, religious or ethnic identification, professional relations or personality differences” (PLA 1997, 2). Common signs of group conflict include body language, anger, frustration and even silence. Conflicts may arise as the group tries to move forward in fulfilling their objectives as a newly formed work team (this is usually evidenced within the storming stage of group development). According to Cooke (1999, 3), conflicts arise when team members: (1) lack “a mutual commitment to a shared urgent purpose”; (2) undervalue “diverse personalities to the team’s ability to achieve its overall purpose”; (3) misbehave “despite personal differences and/or dislikes”; (4) misconvey or “do not communicate differences of perspective or opinion directly, promptly, and openly with each other”; and (5) lack a “skilful leader”. Moreover, researchers have noted that it is rare that teams or groups of individuals undergo the necessary stages of group development without experiencing any significant conflict (Katzenbach and Smith, 2003).

For the most part, team leaders focus on accentuating the positive, where conflict can be evidenced as a “positive reinforcement of the process” (US Navy/NAVAIR, 1996). Conflict is viewed as a necessary part of becoming a ‘real team’ and can be regarded as a constructive element for the team (Katzenbach and Smith, 2003). Researchers have noted that conflicts that are dealt with in a positive manner within a team environment enable the group to successfully resolve the issues at hand. Proper assistance and guidance in resolving conflicts will enable team members to have a common understanding of the operating principles and objectives.

For many team-oriented organizations, conflict resolution processes are being applied to team charters to help members achieve more productive relationships. By recognizing conflict and by applying effective resolution strategies, organizations are able to implement constructive group communication strategies that will help to establish team member competencies. For instance, the Ministry of Defence in the UK has recommended the commissioning of a conflict resolution advisor for their integrated project teams to “help establish and continue effective relationships within teams and between teams and those they interface with such as their customers and Industry” (National Audit Office 2002, 16). Similarly, the Department of Navy (DoD)¹⁵ lists several key principles for resolving conflicts, namely: “think before

¹⁵ See The Department of Navy on “Principles of Conflict Resolution.”

reacting; listen actively; assure a fair process; attack the problem; accept responsibility; use direct communication; look for interests; focus on the future; and options for mutual gain.”

4.3.3 Recruitment and Selection

Recruitment and selection processes of team members are primarily carried out by team leaders, who in turn, select individuals who have a good reputation in working on previous projects (Skilton and Smith-Daniels, 2000). Selection is primarily based on more experienced members who have worked within integrated work teams/groups. However, recruitment and selection practices are not always effective. For example, a 2001 Report on *Best Practices: DoD Teaming Practices Not Achieving Potential Results* (Subcommittee on Readiness and Management Support, Committee on Armed Services, U.S. Senate), revealed that DoD teams do not have control over their team membership. Functional organizations assign individuals to teams; however, members have little input into the composition of teams. The DoD Integrated Product and Process Development Handbook outlines that the “selection of team members for IPTs¹⁶ often lies outside the direct control of the IPT leader.” The report also outlined that DoD does not have control over the changes in membership. Membership fluctuates frequently, and the vast majority of team members do not represent the original members (e.g., at one program office, 71 per cent of the team members were not original members). One team member had stated that within a two-year time frame, his team leader had changed four times; while another team member had four different program managers within a four-year time frame. Evidently, military policy focuses on rotating military personnel every three years which can interfere with team membership.

In another report commissioned by the Ministry of Defence (UK), IPT leaders felt they had little flexibility to recruit the required personnel (NAO, 2002). One significant complaint by the IPT leaders reflects the notion that IPT leaders ‘do not have sufficient flexibility to recruit the personnel that they require as a result of the bureaucratic constraints of the Department’s recruitment process (including lack of available personnel and budgetary constraints).’

The questions remain: How do teams come together to work within successful IPTs? What are the enablers and barriers to the recruitment processes and strategies? How can organizations measure the efficacy of IPTs using specific recruitment and selection strategies? One recommendation revolves around the Ministry of Defence in the UK who has established a systematic process for recruiting and selecting members. The Department has “recognized the need to gain more private sector expertise and to work with the private sector to create more joint career opportunities at all levels, including IPT Leaders” (NAO 2002, 3). Another example revolves around DoD who is focusing on “providing program managers and team leaders with greater authority and control over selection of IPT members, rating authority and rotation of members” (United States GAO 2001, 58).

¹⁶ IPT, in this context, refers to Integrated Process Teams.

Short-termism versus Career Planning

An issue that is fundamental to the successful completion of projects is a person's ability and motivation to fulfill one's mandate within a given role. For example, as people are recruited and selected to manage a given project (e.g., project managers, team leaders), their abilities to fulfill their roles and responsibilities can become an issue if they decide to leave their current positions before the completion of the project. This issue has been referred to as "short-termism" (Oxenham, 2004). Skilton and Smith-Daniels (2000) reveal that interaction between experienced members and novices may be jeopardized when more experienced participants leave earlier on in the project lifecycle, or when novice participants join the team later in the project. Missed opportunities for learning result in a lack of discussions between novices and experienced participants due to reassignment and scheduling demands.

As a result, career planning is fundamental to understanding how individuals will contribute to work teams. Individual career aspirations need to be well understood and aligned with organizational initiatives to help mitigate short-termism issues. One recommendation by the Ministry of Defence (UK) is to establish "Hard and Stretch" targets as performance measures linked to the corporate performance measurement system. Other important areas identified by the Ministry of Defence include the creation of more joint career opportunities at all levels, and the establishment of realistic staffing levels for integrated work teams. As a result, it is important to further understand how individual career planning will enable effective work teams to fulfill their overall team performance objectives.

4.3.4 Empowerment

The word "empowerment" holds many definitions. For instance, Robinson (1997) outlines several definitions of "empowerment", including:

- "...the energizing feeling that comes with greater knowledge, greater skill, and greater control" (William Byham and Jeff Cox, *Heroz: Empower Yourself, Your Coworkers, Your Company*, 1995).
- [empowerment with self-directed teams]"...work together to improve their processes, handle day-to-day problems, and plan and control their work" (Wilson, George, Wellins and Byham, *Leadership Trapeze: Strategies for Leadership in Team-Based Organizations*, 1994).

Theories of empowerment are primarily rooted in community psychology (e.g., Rappaport, 1987; Zimmerman, Israel, Schulz and Checkoway, 1992). Empowerment is generally predicated on the perception that individuals, organizations and community can achieve great control, efficacy and social justice....*they have the power to act*. From a group dynamics perspective, the notion of empowerment represents a fundamental element of effective work teams. For instance, researchers are purporting that empowering teams with knowledge is critical to enhancing organizational performance. In their research, Anand, Fugate and Manz (2000) outline organizational activities (e.g., socialization strategies, training, application of relevant communication technology, use of teams approach) that may influence both "potential team knowledge" and "realized team knowledge".

However, teams may not always feel empowered to take on decisions. For example, a recent report on integrated project teams within the Ministry of Defence (UK) noted that teams can quickly become frustrated when their decisions and proposed solutions are not integrated in the organizational practices of the business. Teams become frustrated and begin to lose trust when their problem-solving and solutions do not get implemented (e.g., “when teams can’t implement solutions because of budget constraints they lose faith in empowerment”) (Robinson 1997, 77). Issues of trust and motivation may also affect team member perceptions of ‘feeling empowered’.

Employee empowerment studies have shifted towards more effective work team structures. For example, self-directed teams represent cross-functional teams that are responsible and accountable in managing and coordinating their own decisions—decisions that would have normally been carried out by their managers. These teams rely on one another for effective decision-making and act on their decisions as a team to achieve successful outcomes. The success of these work teams and other work team structures are contingent upon several key principles, namely: empowerment, trust, clear communication, responsibility and accountability. These key principles have been reiterated in many organizations. For example, the Ministry of Defence in the UK put forward a recommendation that would help to develop a “culture of empowerment through actions and experience with senior managers learning to ‘let go’ more and junior staff being prepared to take on more responsibility” (NAO 2002, 16).

4.3.5 Communication

Effective oral communication (i.e., speaking and listening) and written communication (i.e., reading and writing) both play pivotal roles within work teams. In fact, effective communication helps to build trust and confidence within a team environment. Communication problems occur when team members: ‘(1) undervalue the knowledge, experiences and perspectives of team members; (2) fail to listen and to understand the different perspectives and ideas of team members; (3) miscommunicate ideas or perspectives; (4) disregard essential differences in personal and professional styles; (5) focus more on “being right” than in attaining team objectives; and (6) lack the ability to follow-up on any disagreements with team members with whom they disagree’ (Cooke 1999). These problems occur throughout many organizational work teams; and as a result, it is important to have effective team leadership to enable team members to work within a successful group dynamic.

Communication plays a central role in ensuring that work teams are clear about their roles, responsibilities, accountabilities, objectives, team charters and organizational policies. Whether team members work within a virtual or co-located environment, researchers are noting the importance of clear communication for effective team-building. For example, researchers assert that face-to-face communication is considered to be an effective way of building team cohesion and trust (e.g., Jarvenpaa and Leidner, 1998). On the other hand, social discussion, depth and intimacy have been evidenced to be greater within computer-mediated communication groups than within face-to-face group settings (including those groups that were geographically dispersed or culturally diverse and have never met face-to-face) (Walther, 1995; 1997). Although there are numerous studies that focus on the differences in communication styles (e.g., cross-cultural, gender, telecommunications/

technologies, virtual/collaborative environments), it is important to note that effectual communication helps to build trusting relationships and team efficacy within a team environment.

4.3.6 Trust

Many organizations are exploring the issue of trust and the requirements for building and maintaining trust within and among various work teams. For example, a presentation given by Bill Anderson with the Carnegie Mellon Software Engineering Institute (2004) focused on the risk drivers for achieving system-of-systems integration in analyzing joint capabilities. According to these researchers, team performance is considered to be a critical issue, where building and maintaining trust among various teams to support joint capabilities investment decisions is of paramount interest. In the global virtual team environment, the issue of trust may be further exacerbated by team members who are separated by geography and culture. Global virtual teams may experience a form of “swift trust” (Meyerson, Weick and Kramer, 1996), where the team focuses on a common task for a limited time period.

Evidently, trust is fundamental to any relationship and is imperative to successful team leadership (Renson-Armer and Stickel, 2000). Work teams “will not experience trust unless they: (1) are committed to a shared urgent purpose; (2) appreciate the importance of team members’ diverse experience(s), skills, and perspective(s); (3) are committed to honest, direct, prompt communication of their individual beliefs, especially when they conflict with those of others; and (4) act and speak professionally—do not make or take any comment or criticism personally” (Cooke 1999, 4). Within the corporate context, teams must be able to delineate an organization’s social norms and establish shared values in order to reduce uncertainty and vulnerability, and to build trust (Renson-Armer and Stickel, 2000). Shared social norms, and shared experiences through repeated interactions within groups both help to facilitate trust (Lewis and Weigert, 1985). Moreover, face-to-face encounters enable members to build trust and resolve conflicts more successfully than distributed teams (O’Hara-Devereaux and Johansen, 1994). Similarly, Jude-York (2003) states: “Each team needs to participate in at least occasional face-to-face meetings for the explicit purpose of investing in continuous improvement of their team work processes and to build open, trusting relationships among the members.”

Transformational leadership in teams has a positive impact on encouraging the development of ‘trust, commitment and team efficacy’ (Arnold, Barling and Kelloway, 2001). A culture of transformational leadership within a team environment should be highly encouraged. Organizations can enable people to feel empowered and to trust management so long as any limitations, boundaries and constraints are brought to the attention of the team members. This will help to further build trust among team members and management.

4.3.7 Rewards and Recognition

Recognition of teamwork through effective reward mechanisms continues to be an important factor for instilling a culture supportive of teaming principles. Researchers have noted that ineffectual reward mechanisms impact on “proper compensation to team members/individuals and their contributions to team success” (Cooke, 1999). Without some form of reward for team contributions (e.g., monetary bonuses, citations, informal recognition by management), team performance may suffer, and attitude and morale problems may arise (US Department of Health and Human Services 2000, 11). This lack of recognition can be further evidenced in virtual team environments, where team members may feel segregated from the rest of the project team (e.g., feelings of isolation and lack of motivation).

The recognition and value of teamwork, and the implementation of proper mechanisms for rewarding team performance, are becoming more evidenced within high performance organizations. Whether distributed or co-located work teams, high performing organizations are examining the drivers that are necessary for recognizing and rewarding team performance. For example, recognition of team-building, team member communication styles, team report writing, and overall team leadership all represent significant aspects of effective work team strategies. These aspects are being linked to reward and recognition mechanisms which value the contributions and impacts of the ‘team discipline’ (e.g., recognition of teamwork values are being integrated into organizational performance appraisal systems). As a result, organizations are focusing more on the importance of fostering a culture that is flexible, celebrates successes and creates incentives (i.e., both intrinsic and extrinsic rewards) for effective teamwork strategies.

4.3.8 Performance Appraisals

Traditional performance appraisals are predominantly individualistic. For the most part, individual accomplishments have received greater attention than team endeavors, making it more difficult for organizations to create and maintain successful team dynamics. These appraisals mainly focus on individual annual performances and targets, and tend to undervalue the significance of teamwork. For many decades, the focus has been on creating a competitive workforce, where individuals would compete against one another for performance bonuses and organizational recognition. This has been ingrained into our social and educational fabric; and as a result, it has become more difficult to create a group dynamic that fosters collaboration and teamwork.

Interestingly, researchers studying traditional and contemporary performance management systems have realized the value of leadership competencies in relation to teamwork, empowerment, coaching and mentoring. For example, Buzzotta and Lefton (1999) had the opportunity to evaluate managers who had attended these researchers’ leadership seminars for several years. The managers were asked to rate their bosses on 63 different behavioral characteristics. These researchers found that hundreds of managers felt that their leaders were lacking the following competencies, including: coaching, appraising and rewarding; empowering and enabling performance; and teamwork and collaboration. Buzzotta and Lefton (1999) were not surprised that “appraising and rewarding performance was ranked at the top as the competency most needing improvement.” To help address these concerns,

organizations are incorporating these competencies into their performance appraisals, realizing their potential impact on high-performance organizations.

In contemporary society, performance management systems are concentrating more on the value of teamwork. Although “cooperation” and “teamwork” are evaluated in performance management systems, the overall assessment is usually based on the “supervisor's view of activities found [within] the "home" team”; however, “performance on cross-functional teams is rarely considered” (Parker, 1994). As a result, team performance is taking a more holistic approach by obtaining feedback from various team leaders and even team members (e.g., 360 degree feedback systems) to help assess individual performance within a team construct. For instance, if an employee had a chance to work within an integrated project team environment, the team leader could be given an opportunity to provide input to the employee’s annual performance appraisal. This type of feedback, however, needs to be based on constructive criticism and effective communication which may require team training and development. Moreover, Collaborative Maturity Models are being applied to help assess teams in their overall performance. The Ministry of Defence in the UK is one particular example that has recommended to move forward with “Maturity Models” to ensure that the success factors are relayed to help improve performance across integrated project teams (NAO, 2002).

4.3.9 Training and Development

Training and development issues stem around individual and team training plans to enable more effective work teams. Employee development primarily focuses on individual training and skills development; however, greater attention is being paid on establishing more robust training programs that enable effective teamwork and team performance. Research studies have shown that insufficient teamwork training can lead to poor communication, little flexibility, lack of empowerment and motivation, resistance to change, poor interpersonal skills, distrust and unresolved conflicts. As a result, organizational development initiatives are putting forward training and development programs to help create and sustain effective work teams.

Teaming skills are increasingly becoming incorporated into individual training programs. For instance, “team members are being trained in interpersonal skills, conflict management, team problem resolution, and decision making” (US Department of Health and Human Services 2000, 10). Understanding the important aspects of interpersonal relationships is being further incorporated into organizational development initiatives to enable teams to develop and to work more successfully. For example, the Ministry of Defence in the UK recommends the importance of “providing continuous booster training every 18 months to two years to revitalise teams as the programme progresses and team dynamics change with staff turnover” (NAO 2002, 16). With respect to Integrated Project Team Leaders, the report asserts that it is important to monitor the progress and continuing professional development of its leaders, and to work with these leaders “to ensure that opportunities to update and [to] learn new skills are not overlooked.” The report also suggested that corporate monitoring of training needs would help the ‘Department to identify any gaps in competencies and would ensure that opportunities for all IPT staff are up-to-date along with the ability to learn new skills’ (NAO, 2002).

5 Team Performance Management

Team performance draws on the effectiveness of teams...*how individuals within the 'team construct' contribute to the overall group dynamic in fulfilling organizational objectives.* Understanding the value of these contributions is critical to ascertaining the merit of work teams. According to Beyerlein et al (2000), “high performance levels” emerge from teams that are properly designed and supported by organizations that promote skills development, reward system structures, access to information and empowerment). As a result, defining measures (metrics) by which to gauge team performance is fundamental to initiating effective work team strategies.

Performance metrics can play a significant role in understanding the efficacy of teams (e.g., team empowerment, trust, communication and conflict resolution systems). For instance, if organizations wanted to explore the measurement of team performance, it would be important to determine what type of metrics would be implemented to measure group dynamics and the divergent perspectives/personalities within work teams. Similarly, if organizations needed to assess the efficacy of virtual teams, then it would be prudent to examine the metrics that would help to assess *virtual* team performance. Thus, performance metrics will help to understand the most effective work team strategies, including the methods and tools for sustaining healthy group dynamics and processes, social networks and team communications.

As such, teams need to measure their overall performance. Work teams need to understand how their contributions impact their organization (i.e., How has the team construct contributed to the organizational goals and objectives?). Measuring team performance, therefore, becomes a critical step to understanding the impacts, outcomes and value of work teams. There are a number of tools that are being used to help work teams assess their overall performance. For example, the Center for Collaborative Organizations (2004), previously known as the *Center For the Study of Work Teams*, has put forward the Multiple Perspectives Assessment System tool that measures individual, team and organizational levels of collaboration. As outlined in Table 6, these tools focus on three particular systems, including: Team Feedback System (TFS), Team Information Management System (TIMS) and Collaborative Work Systems (CWS) Design Tool.

Table 6 Multiple Perspectives Assessment System

Team Feedback System	Team Information Management System	Collaborative Work Systems
<ul style="list-style-type: none"> ▪ Assesses individual or team member effectiveness (Web-based). ▪ Offers a comprehensive view by incorporating team member perspectives. ▪ Assesses fundamental team member competencies based on the knowledge skills and abilities of team members. ▪ Presents customized results including a continuous team member report, an overall team report, and a management report. ▪ Focuses on individual and team training. 	<ul style="list-style-type: none"> ▪ Describes team solutions and quantifies benefits. ▪ Records financial incentives at the team, facility and corporate levels. ▪ Summarizes past and present team projects that enable managers to direct team efforts. ▪ Provides benchmarking opportunities with interested companies. ▪ Incorporates team and manager perceptions of additional support resources. ▪ Offers planning, development and assessment reports based on team advancement. 	<ul style="list-style-type: none"> ▪ Provides linkages to change ideas in ‘Guiding the Journey to Collaborative Work Systems’. ▪ Concentrates on ‘site, multiple sites, department or team levels’. ▪ Assesses the planning, implementation and sustainment for the development of Collaborative Work Systems. ▪ Recognizes the gaps amid current and ideal situations. ▪ Presents results customized to organizational needs.

Another example for rating team development is presented in Table 7. Team development ratings are used to help determine a team’s progress. Team development profiles are generated to help team members understand their team’s progress, and to enable team members to learn and understand their own development within a team construct. For instance, by using Tuckman’s Team Development Model, team members are able to understand their team’s progress and where they fit within the stages of group development (i.e., specifically within Forming, Storming, Norming and Performing).

Table 7 Rating Team Development (Evaluation Criteria)
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How do you feel about your team's progress?	
1. Team's purpose	I'm uncertain.....1 2 3 4 5.....I'm clear
2. Team membership	I'm out.....1 2 3 4 5.....I'm in
3. Communications	Very guarded.....1 2 3 4 5.....Very open
4. Team goals	Set from above.....1 2 3 4 5.....Emerged through team interaction
5. Use of team member's skills	Poor use.....1 2 3 4 5.....Good use
6. Support	Little help for individuals.....1 2 3 4 5.....High level of support for individuals
7. Conflict	Difficult issues are avoided.....1 2 3 4 5.....Problems are discussed openly and directly
8. Influence on decisions	By few members.....1 2 3 4 5.....By all members
9. Risking taking	Not encouraged.....1 2 3 4 5.....Encouraged and supported
10. Working on relationships with others	Little effort.....1 2 3 4 5.....High level of effort
11. Distribution of leadership	Limited.....1 2 3 4 5.....Shared
12. Useful feedback	Very Little.....1 2 3 4 5.....Considerable

These team performance tools represent examples of the metrics that may be applied for obtaining a better understanding of how teams evolve through the stages of group development. As teams become more aware of their overall team performance, team leaders may begin to reassess their work team strategies by implementing more effective work team principles. These team principles may incorporate guidelines for developing and improving work team strategies. The next section focuses on examples of the necessary guidelines used for effective team development practices.

5.1 Guidelines for Team Development

Team building activities are generating considerable attention as organizations are realizing that successful team work leads to effective productivity. There are many “*How To*” manuals or guidebooks that are being utilized by management for building and sustaining healthy team dynamics. For example, Jim Cain and Barry Jolliff (1998) have published *Teamwork and Teamplay—A guide to cooperative, challenge and adventure activities that build confidence, cooperation, teamwork, creativity, trust, decision-making, conflict resolution, resource management, communication, effective feedback and problem solving skills*. The Center for Collaborative Organizations has also developed a comprehensive Web site for teams and team development. As outlined in Table 8, developing a productive team is contingent on many elements of team building (University of Nebraska Cooperative Extension, 1990).

Table 8 Steps for Effective Team Building

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1. High level of interdependence among team members
2. Team leader has good people skills and is committed to a team approach
3. Each team member is willing to contribute information, skills and experiences
4. Team develops a relaxed climate for communication
5. Team members develop a mutual trust for each other
6. Team and individuals are prepared to take risks
7. Team is clear about goals and established performance targets
8. Team member roles are defined
9. Team members know how to examine team and individual errors without personal attacks
10. Team efforts are devoted to the achievement of results (team performance)
11. Team has capacity to create new ideas
12. Each team member knows he can influence the team agenda

A focused team is motivated by members who work towards a common objective. By incorporating a set of team-building guidelines, ‘team members are able to jointly decide how they will work together’ to achieve a common vision (Adams, 1988).¹⁷ Team-building guidelines also help to establish overall team effectiveness. As outlined in Table 9, a ‘model of excellence’ may enable a team to measure its overall performance. This model represents a set of guidelines for team effectiveness, focusing on the following criteria, namely: team goals, participation, feedback, team decision-making, leadership, problem-solving, conflict, team member resources, and risk taking and creativity.

Table 9 Guidelines for Team Effectiveness

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Team goals are developed through a group process of team interaction and agreement in which team member is willing to work toward achieving these goals.
Participation is actively shown by all team members and roles are shared to facilitate the accomplishment of tasks and feelings of group togetherness.
Feedback is asked for by members freely given as a way of evaluating the team’s performance and clarifying both feelings and interests of the team members. When feedback is given, it is done with a desire to help the other person.
Team decision-making involves a process that encourages active participation by all members.
Leadership is distributed and shared among team members and individuals willing to contribute their resources as needed.
Problem solving , discussing team issues, and critiquing team effectiveness are encouraged by all team members.
Conflict is not suppressed. Team members are allowed to express negative feelings and confrontation within the team which is managed and dealt with by team members. Dealing with and managing conflict is seen as a way to improve team performance.
Team member resources , talents, skills, knowledge, and experiences are fully identified, recognized, and used where appropriate.
Risk taking and creativity are encouraged. When mistakes are made, they are treated as a source of learning rather than reasons for punishment.

¹⁷ Adams, John. D. “The Role of the Creative Outlook in Team Building”, in *Team Building*, edited by W. Brendan Reddy and Kaleel Jamison, 98-106. Alexandria, Virginia: Institute for Applied Behavioral Science, San Diego, California: University Associates, Inc., 1988.

The above guidelines enable a team leader to liaise between the team and upper management. The team leader's focus is to obtain full commitment by working with upper management to help support the team's program. The team leader encourages team member growth by empowering team members with leadership roles. As a fair, supportive and recognized team leader, the individual will need to develop a productive team by allowing team members to build commitment, trust and valued support for all team members. Measuring the performance of a team may enable the team leader and members to understand how they can further develop their team building experiences.

Moreover, cognitive engineering techniques could help to determine the requisite components for effective team performance and work team strategies (Stout, Salas, Milanovich and Cannon-Bowers, 2000). These techniques are used to identify measures to assess four components: individual outcomes, team outcomes, individual processes and team processes. Cognitive engineering focuses on recognizing the "perceptual, attentional, memory and decision-making structures and processes" (Stout et al, 2000).

Guided team self-correction is another example of a team training strategy that could help teams assess their own performance problems (Smith-Jentsch, Blickensderfer, Salas and Cannon-Bowers, 2000). Guided team self-correction focuses on arranging "post performance team debriefings" to enable team members to build concise and "shared mental models" to help assess and resolve their own performance issues (Smith-Jentsch et al, 2000). Thus, team self-correction represents a strategy for training teams to help shape team-related mental models. This strategy is used to help assess the strengths and weaknesses of team performance and the areas which can be improved for future team encounters. To ensure that the assessment is a positive journey, it is important for the discussion to be focused with team members who have diagnostic skills that could help to explain team performance. Constructive criticism is key to ensure a positive understanding of the areas that could help improve team performance. "Open communication" and "participative decision-making" will enable team members to contribute to a healthy discussion and way ahead for effective team feedback. Table 10 outlines the guidelines employed for effective team self-correction—guidelines that assist team members in relaying ideas and apprehensions in a positive manner.¹⁸ Researchers have demonstrated that shared mental models (e.g., having a unified focus and shared expectations among team mates) have been associated with superior team performance (Cannon-Bowers and Salas, 1997; Klimoski and Mohammed, 1994; Rentsch and Hall, 1994). Smith-Jentsch et al (2000, 57) argue that "team-related mental models" have an impact on individual interpretations and team experiences. As a result, these researchers argue that the three properties of mental models (i.e., consistency/stability, accuracy and agreement/sharedness) held among team members enhance overall team performance.

¹⁸ For a thorough discussion on Team Self-Correction, see: Smith-Jentsch, K. Blickensderfer, E., Salas, E. and J. Cannon Bowers. (2000). "Helping Team Members Help Themselves", in M. Beyerlein, D. Johnson, and S. Beyerlein (Eds.), *Team Performance Management: Advances in Interdisciplinary Studies of Work Teams*. JAI Press Inc., Stamford, Connecticut, pp. 55-72.

Table 10 Guidelines for Team Self-Correction

Team members should be trained to use effective feedback skills prior to holding any team self-correction discussions.

Team members should have enough time to engage in an effective team self-correction discussion.

Team members should be given an overview to help ‘team member recall’.

Team self-correction discussions should employ a topical outline or model of team-related systems.

Team self-correction discussions should concentrate on improving behaviour rather than simply maximizing outcomes.

A team leader or team member should smooth the progress of team self-correction by:

- **fostering a team climate that supports learning;**
- **keeping a structured outline for discussions;**
- **modeling efficient feedback skills;**
- **generating feedback and ideas;**
- **coaching team members in associating tangible examples to generalized categories of behavior (and providing constructive feedback);**
- **enlisting and supporting team member participation during discussions; and**
- **reinforcing team member participation.**

Team self-correction discussions should examine specific improvement goals for the next performance review.

Source: Blickensderfer et al., 1997; Tannenbaum et al., 1998; Smith-Jentsch, Zeisig et al., 1998. Source: M. Beyerlein, D. Johnson, and S. Beyerlein (Eds.), Team Performance Management: Advances in Interdisciplinary Studies of Work Teams. JAI Press Inc., Stamford, Connecticut, pp. 55-72. Permission granted from Center for the Study of Work Teams, University of North Texas.

Another example of team development guidelines stems from the US Department of Health and Human Services. For instance, Integrated Process Team leadership is critical to effective team performance; and as a result, the Department has put forward the *Do's and Don'ts* for effective team leadership. Table 11 outlines the most critical elements for effective team leadership (US Department of Health and Human Services 2000, 14). These leadership principles are key to supporting and sustaining successful work teams; and will enable team members to successfully fulfill their goals and objectives.

Table 11 IPT Leader Do's and Don'ts (*Reprinted with Permission*)— US Department of Health and Human Services (2000)

Do's	Don'ts
<p>DO allow team to choose options</p> <p>DO permit the group to do 80% of the talking</p> <p>DO draw people into the conversation</p> <p>DO sit in the middle of the group</p> <p>DO use silence creatively</p> <p>DO invite challenges to your own ideas</p> <p>DO challenge the group to answer questions</p> <p>DO ask for feedback on your own behaviour</p> <p>DO coach through questions</p> <p>DO encourage creativity and innovation</p> <p>DO maintain flexibility</p> <p>DO challenge (and encourage others to challenge) ideas and assumptions</p> <p>DO encourage the group to explore new ideas</p> <p>DO share the assumptions behind ideas</p> <p>DO encourage divergent thinking</p> <p>DO focus the group's thinking when necessary</p> <p><i>In all interactions, DO offer encouragement; foster respect; remain positive and upbeat; promote trust; show concern and interest; be direct; and resolve conflicts.</i></p>	<p>DON'T make all/most decisions unilaterally</p> <p>DON'T do more than 20% of the talking</p> <p>DON'T discourage participation</p> <p>DON'T always sit/stand in front of the group</p> <p>DON'T let a few team members dominate</p> <p>DON'T criticize member input and ideas</p> <p>DON'T provide all the answers</p> <p>DON'T discourage feedback</p> <p>DON'T be authoritative</p> <p>DON'T argue</p> <p>DON'T be rigid in your thinking</p> <p>DON'T challenge people personally</p> <p>DON'T push your own agenda</p> <p>DON'T cut off discussions needlessly</p> <p>DON'T discourage "out-of-the-box" thinking</p> <p>DON'T interrupt and change topics needlessly</p> <p><i>In all interactions, DON'T patronize or condescend; don't be brusque and unapproachable; don't act in a self-serving manner; don't display negativity; don't show hostility; don't respond cynically; and don't show disinterest to group conflicts.</i></p>

5.1.1 Guidelines for Work Team Reports

Guidelines for team reports are fundamental to successful team writing. With many diverging viewpoints, it is important for team members to reach a shared approach in establishing guidelines for work team reports. Guidelines are typically used to enable the team to focus on project-based reporting. In the team planning process, team members need to understand how each individual will contribute to the work team report. Each team member will bring a different set of expertise and perspectives to the report; and as a result, procedures for reviewing reports and making decisions should be developed among the team members.

A team writing strategy, for example, may enable team members to explore how the team would like to report their findings within a team reporting structure. A writing process which incorporates a set of guidelines (e.g., team writing procedures) agreed to by team members is very important to establish from the onset. The main focus should be on the team report and the objectives for writing the report. For successful team writing, members are usually assigned their roles and responsibilities for writing their portion of the report. Each team member needs to have a good understanding of who the reader/client will be, and how the findings will be interpreted after reading the report.

Other issues that involve team writing include: the listing of authors in team reports; opposing views and perspectives by team members; one team member contributing more than others; and getting the appropriate recognition for contributing to team reports. For example, the listing of authors in team reports can affect team members unless procedures for writing a team report have been clearly established by the group (e.g., team members' names listed in alphabetical order). The level of contribution by each team member can also become a significant issue, unless the roles and responsibilities for team writing have been decided from the onset.

Recognizing the value of team reports within the organizational setting is critical to sustaining healthy group dynamics. For example, aligning team reports with career progression and performance recognition may be a key aspect to ensuring successful team dynamics. A team report represents a team work product—a reflection of “an incremental performance value” based on the sum total of each member’s contribution (Katzenbach and Smith, 2003). Moreover, within the context of establishing team report guidelines, it becomes integral to understand the alignment of team member responsibilities and accountabilities to the overall team objective. As a result, clear team reporting guidelines need to be established, communicated and incorporated into team charters, and ultimately assessed for team performance effectiveness and work satisfaction.

5.2 Building Blocks for Integrated Capability Engineering Teams

The ultimate success of the new team-based organization hinges upon the success of its fundamental building blocks—the teams themselves (Gadeken 2002, 76). In this paper, the research on work teams and their corresponding strategies have been examined to determine which best practices could be applied to help ascertain more effective work team strategies for

a new team construct—Integrated Capability Engineering Teams (ICE-Ts). This new team construct is being explored within the context of Capability Engineering—a concept that will help to support Capability-Based Planning by providing engineering rigor towards the development of a capability in a system-of-systems construct. Within the department, there are prototypes of this emerging construct which are referred to as Capability Engineering Teams (CETs). The CETs are basically comprised of a team leader, systems engineers, systems architects and requirements/operational analysts. The ICE-T construct, however, will be comprised of a core analytical team, encompassing a combination of a team leader, systems engineers, systems architects, a lifecycle costing specialist, a human systems integration engineer and other operational analysts. This core analytical team, partnered with operational subject matter experts (SMEs) and liaison members from across the PRICIE capability components, will be formally assigned through an appropriate team charter to ensure a strong commitment to fulfilling the team objectives. Team leadership will be integral to the successful integration of ICE-T members (e.g., an integrated relationship between the requirements [operator] and solutions [systems] domains). As a result, the principal building blocks for developing and implementing successful ICE-Ts need to be addressed to help further refine the team dynamics within Capability Engineering.

The following section puts forward a list of recommendations for identifying the criteria for team success and the lessons learned from team failure to help establish the principal building blocks for effective ICE-Ts. Table 12 outlines the main recommendations for developing and sustaining the principal *TEAM* building blocks for the ICE-T construct.

Table 12 Building Blocks for Integrated Capability Engineering Teams

<p><u>Leadership and Team Management Strategies:</u></p> <ul style="list-style-type: none"> • Team leaders should develop the necessary skills for team management and leadership (e.g., teamwork, team development, team design and process, team motivation, team-building, mentoring, coaching, trust building, communication and capability-based team management). • Team leaders should develop a Team Charter with team members. This Charter should focus on a multi-disciplinary team approach (i.e., achieve consensus on vision, common purpose, objectives and goals with team members). Work Team Guidelines (e.g., team building guidelines, team performance, team writing) should be incorporated into the Team Charter. • Team leaders should clearly define and discuss team member roles, responsibilities and accountabilities with the entire team (i.e., each team member should have a clear understanding of their team roles, responsibilities and accountabilities). The team leaders and team members’ roles and responsibilities should be outlined in the Team Charter.
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Recruitment and Selection:

- Team leaders, who would be responsible for the recruitment and selection process, should have the appropriate team leadership competencies (e.g., knowledge, skills and personal attributes) to select the appropriate team membership. Team members can also be part of the selection process once a team has been established, and there is room for additional recruitment and selection of team members.
- Team leaders should be empowered with greater authority, responsibility and accountability over selection of team members, rating authority and rotation of members. The level of empowerment will need to be aligned with appropriate team leadership competencies and policies.
- The recruitment and selection process should be aligned with individual career aspirations to ensure that the potential team member has a desire to be on the team. The team leader and career manager will need to be aligned and coordinated accordingly (e.g., discussions will need to take place throughout the team member's involvement, including team member performance).
- The recruitment and selection process should focus on team skill requirements, including: technical or functional expertise; problem-solving and decision-making skills; and interpersonal skills (with a focus on personal learning and development).¹⁹
- The recruitment and selection process should minimize incumbent turnover rates by incorporating hard and stretch goals. These hard and stretch goals will need to be linked to the member's overall career development.
- Upon selection of the team, team members should be committed for the duration of the assignment (*short-termism should be avoided*). Team leaders should establish working contracts with parent organizations to ensure greater commitment.

Communication:

- Team members should develop an effective communication process. This communication process will need to be outlined within the Team Charter. Team members should understand the importance of open communication with all team members.
- Team members should contribute to a collaborative workspace environment (e.g., knowledge portal, collaborative engineering facility) which could enable them to work within a team environment, share information, leverage knowledge and build trusting relationships.

¹⁹ See Katzenbach and Smith (2003) on "Complementary Skills", pp. 47-49.

Trust:

- Team members should incorporate the fundamental building blocks and guidelines for establishing trusting working relationships. These building blocks should be clearly outlined within the Team Charter.
- Team members should learn proper and effective communication skills to maximize working relationships and trust building.

Rewards and Recognition:

- Team members should be part of the further development and refinement of the Rewards and Recognition process.
- Team members should be given rewards and receive recognition for outstanding team performance.
- Team members' efforts should be recognized as having a high impact on overall performance (including organizational performance).
- Outstanding team performance should be recognized and celebrated by management and home organizations (including small successes).

Individual and Team Performance Management:

- Team members should have a high level of interdependence (i.e., team members should rely on each other to fulfill their goals and objectives). This helps to create a symbiotic relationship.
- Team members should focus on continuous training and development strategies (with a focus on knowledge, skills and attitudes for effective teamwork).²⁰
- Team building exercises should be incorporated into the Team Charter. This will help to enhance group dynamics.
- Team leaders should clearly convey the goals and established performance targets for each team member, and how these targets are aligned with individual career aspirations.
- Team self-correction discussions should be aligned with specific improvement goals for the next performance year (e.g., team self-evaluation using a 360 degree feedback performance measurement system or peer feedback sessions). Team members should

²⁰ Research psychologists from the Naval Air Warfare Center (NAWC) Training Systems Division in Orlando, Florida, outlined their in-depth research for effective teams. These researchers discussed the knowledge requirements, skills dimensions, and attitudinal factors for effective teamwork. See: <http://www.opm.gov/perform/articles/075.htm> .

be trained on employing constructive feedback skills.

- Team performance goals and guidelines should be established to help the team members function as one group (e.g., mutual accountability for team performance). This will help to enhance team commitment and trust, and will, in turn, enhance the performance capability of each team member.
- Team performance measures (e.g., Web-based assessment surveys) should be developed and implemented to enable team members to assess their performance during specific time periods (e.g., three months, six months and one year). This will enable the team to shape its performance accordingly.

Conflict Management:

- Team members should have an effective conflict resolution process for the improvement of team performance.
- Team members should be in agreement with the Team Charter—including team practice and team performance. This will enable the team to have a clear and agreed upon working approach, and will also help to minimize potential conflict.

Leadership and team management, recruitment and selection, communication, trust, rewards and recognition, individual and team performance management, and conflict management represent some of the key elements for creating and sustaining high-performance work team strategies for ICE-Ts. These building blocks are based on some of the best practices and lessons learned that have been outlined by researchers examining the requirements for effective work teams. As a result, these building blocks will be further examined in a series of reports that will help to outline the enabling conditions for successful ICE-T work team strategies.

6. Conclusion

Effective work team strategies are contributing to higher productivity levels, advanced decision-making capabilities, and better organizational performance. According to work team strategists, the “team discipline” will continue to impact on organizational performance (Katzenbach and Smith, 2003). As teams will continue to evolve through the stages of group development (i.e., forming, storming, norming, performing and adjourning), the dynamic research on work teams and team performance will continue to examine the integral aspects of high performance organizations. For example, research on successful work teams has clearly delineated several key principles for sustaining effective work teams, including: proper recruitment and selection of team leaders and team members; clear understanding of member roles, responsibilities, accountabilities and objectives; alignment of roles with career progression; rewards and recognition of valued team contributions and organizational impacts; and understood team charters. As a result, researchers are focusing on the importance of team effectiveness, and how individual and team skills are contributing to high performance work teams.

This paper investigated the group dynamics of team building, and focused on how groups come together and build on their relationships to ensure a successful work team environment. It outlined several key issues affecting work teams, namely: cultural resistance, conflicts, recruitment and selection (including short-termism vs. career planning), empowerment, communication, trust, rewards and recognition, performance appraisals, and training and development. Work team performance was examined, focusing primarily on why teams fail and what are the motivating factors for team success. Team performance management and the guidelines that are necessary for more effective team building were also examined and were considered to be essential for focusing on joint work products, individual growth and organizational performance (Katzenbach and Smith, 2003). Finally, the paper put forward a list of recommendations for identifying the criteria for team success and the lessons learned from team failure to help establish the principal building blocks for effective Integrated Capability Engineering Teams. The main building blocks for ICE-Ts focused on several key areas, including: leadership and team management strategies; recruitment and selection; communication; trust; rewards and recognition; individual and team performance management; and conflict management. These building blocks will be assessed and outlined in a series of upcoming reports which will help to further advance the ICE-T construct.

The success of work team strategies will be contingent on the cultural implications of the team paradigm. A cultural shift will need to place greater emphasis on team efficacy—focusing on career goals and aspirations, performance evaluations, compensation systems and associated behaviours (e.g., trust, confidence and motivation). Senior management will need to promote the importance of work teams as the primary unit of performance, making a clear distinction between when to employ them and when to consider alternative strategies. As a result, it will continue to be fundamental for researchers and organizations to further explore the main tenets of work teams, their alignment to organizational values, and the successful conditions for enabling effective team performance. The key to successful performance is in understanding the importance of teams, knowing when to apply the team construct, and

learning the potential impact on organizational performance. Organizations which advocate teamwork and collaboration need to continuously align their value system with a culture that promotes a team discipline approach (see Katzenbach and Smith, 2003). As a result, promoting teamwork values is critical to sustaining healthy work teams, and is essential to attaining a better understanding of how organizations can create high performance teams.

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List of symbols/abbreviations/acronyms/initialisms

CapDEM	Collaborative Capability Definition Engineering and Management
CET	Capability Engineering Team
CF	Canadian Forces
DND	Department of National Defence
ICE-T	Integrated Capability Engineering Teams
IPT	Integrated Project (Process) Teams
PRICIE	A Capability Component Model: <i>Personnel</i> (including professional development and leadership), <i>Research and Development</i> (including Operational Research), <i>Infrastructure and Organization</i> , <i>Concepts, Doctrine and Collective Training</i> , <i>IT Infrastructure</i> , and <i>Equipment, Supplies and Services</i> .
SMEs	Subject Matter Experts
TDP	Technology Demonstration Project

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Work team strategies are being introduced into organizations to help improve productivity levels, enhance decision-making capabilities, and manage transformational change to enable more effective organizational performance. Researchers are focusing on the importance of team effectiveness, and how individual and team skills are contributing to high performance work teams. Team performance draws on the effectiveness of how individuals within the team contribute to the overall group dynamic in fulfilling organizational objectives. By examining work teams and the strategies that are used for successful organizational performance, this paper proposes some of the key principles for enabling Integrated Capability Engineering Teams (ICE-Ts) to successfully support Capability-Based Planning. This paper investigates the group dynamics of team effectiveness, and focuses on how groups come together and build on their relationships to ensure a successful work team environment. Work team performance is examined, focusing primarily on why teams fail and what are the motivating factors for team success. Several key issues affecting work teams are examined, including: cultural resistance, conflicts, recruitment and selection (including short-termism vs. career planning), empowerment, communication, trust, rewards and recognition, performance appraisals, and training and development. Team building strategies and guidelines are proposed to help work teams assess their own performance criteria for successful group dynamics. Finally, a list of recommendations are put forward to identify the criteria for team success and the lessons learned from team failure to help establish the principal building blocks for effective ICE-Ts within the Canadian defence environment.

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Work Team Strategies, Team Development; Team Building; Team Performance Management; Team Assessments; Group Dynamics; Team Structures; Team Enablers and Barriers; Teamwork; Virtual Teams; Cultural Resistance; Conflict; Recruitment and Selection; Empowerment; Communication; Trust; Rewards and Recognition; Performance Appraisals; Training and Development; Work Team Reports; Collaborative Environments; Capability Engineering; CapDEM; Collaboration; Integrated Project Teams; Integrated Capability Engineering Teams, Capability Engineering Teams, PRICIE.

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