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**The Relationships between Work Team Strategic Intent and Work
Team Performance**

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by

Dr. Thomas R. Edison, DBA, CPL, Defense Acquisition University

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NPS Acquisition Research Program
Attn: James B. Greene, RADM, USN, (Ret)
Acquisition Chair
Graduate School of Business and Public Policy
Naval Postgraduate School
555 Dyer Road, Room 332
Monterey, CA 93943-5103
Tel: (831) 656-2092
Fax: (831) 656-2253
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The Relationships between Work Team Strategic Intent and Work Team Performance

Presenter: Dr. Thomas R. Edison, DBA, CPL, is currently the Academic Chair for Life Cycle Logistics at the Defense Acquisition University, West Region, San Diego, CA. He has a Doctorate from Alliant International University in Strategic Management, a Master's Degree in Logistics Management from Air Force Institute of Technology, and a Master's Degree in Education from Chapman University. His doctorate research was related to team strategic intent or focus and team performance. He is a Certified Professional Logistician from SOLE, Certified Quality Engineer and Certified Quality Manager from ASQ. Dr. Edison has more than 37 years of experience in acquisition and logistics. He is a retired Air Force aircraft maintenance officer with 25 years of active duty. He's Level III certified in Acquisition Logistics and Program Management. Besides his work as Logistics Chair, he also teaches all DAU DAWIA courses in logistics and program management. He is married, has three grown children and two grandchildren.

Defense Acquisition University
33000 Nixie Way Bldg 50
San Diego, Calif 92147
(619) 524-4815 (Work)
(524) 4815 (DSN Work)
(619) 524-4794 (Work FAX)
(619) 517-3171 (Cell)
tom.edison@dau.mil (E-mail address)

Abstract

Overview

Teams can be a significant resource to business leaders and can help lead to greater program successes. Little empirical data exist on what strategic characteristics make teams more effective. This study was conducted on 57 student project teams in 12 classes (327 respondents) in a Defense Acquisition University (DAU) executive level, six-week program management class in six different locations. The study not only underscores the significance of team focus on performance but also highlights how team characteristics affect team focus and performance. The results of this study have applications to the successful use of project teams throughout the DoD and in the commercial industrial workplace.

Results

Significant direct relationships were found in the 15 tested hypotheses between work team strategic intent and team performance as measured by team self-assessments and instructor assessments. There was also found to be a relationship between the team self-assessment of performance and the instructors' assessment of the team performance.

This study provided empirical evidence on the significant relationships between work team strategic intent and work team performance. The research accomplished the following:



1. Provided empirical data on the positive correlation relationships between work team strategic intent and work team performance.
2. Defined characteristics that were used to determine the strategic intent of a work team or any work unit.
3. Created a survey to measure strategic intent of team members and teams in general.
4. Introduced the study of strategic thinking or use of strategic intent as a method for evaluating team performance.

Introduction

Organizations operating in today's complex, changing and sometimes chaotic work environments, both in the government and commercial industries, appear to be more and more dependent on using work teams to leverage themselves to be more creative, efficient, and focused. Warren Bennis (1985), in his book *Leaders, The Strategies for Taking Charge*, describes the need for cooperation, communication, and collaboration between individuals in order to achieve greatness—and emphasizes the successful deployment of teams in the last two decades to achieve these same results.

In today's society, as complex and technologically sophisticated as it is, the most pressing projects require the committed, coordinated, and connected contributions of many talented people. Gone is the myth of the Lone Ranger who can work alone and is larger-than-life. Tomorrow's competitive organizations will be managed and inspired by teams of experts, skilled technicians, and team-appointed leaders. Projects, work efforts, and entire programs will be accomplished by a network of linked, disciplined workers skilled in their own right but connected by their commitment to their team's greater cause, goals, and/or objectives (Bennis & Biederman, 1997).

In the classic written about teams, *The Wisdom of Teams*, authors Jon R. Katzenbach and Nicholas K. Smith identify numerous teams in various industries (Citibank, General Electric, Hewlett-Packard, etc.) that have been continually successful in employing high-performing, self-managed work teams (2003). They state that a real team that is appropriately focused and rigorously disciplined is the most versatile unit an organization has for meeting both performance and change challenges in today's complex global markets.

The use of teams has been increasing for the last 20 years. In recent data collected from *Fortune* 1000 companies, it was highlighted that the use of self-managed teams has increased from 28% in 1987 to 68% in 2003 (Lawler, Mohrman & Ledford, 1995). A study of related research on "self-managed team" underscored the fact that nearly every major American corporation is considering adopting self-managed team as an organizational design somewhere in their organization (Manz & Sims, 1993; Wellins, Byham & Wilson, 1991).

In addition, a GAO study in April 2001 highlighted the specific advantages of using Integrated Product Teams (IPT) as a "best practice" to improve how the Department of Defense develops and acquires weapon systems (2001, April 10). The report identifies specifically the successful use of IPTs by the military in the Advanced Amphibious Assault Vehicle Program (AAAV) to reduce the time needed to reduce a system design decision



from 6 months to about a week. It also highlighted three commercial companies that effectively used high-performing, self-managed teams to improve their product development capabilities. Those were: Daimler Chrysler, Hewlett-Packard, and 3M.

Organizational changes are occurring with ever-increasing frequency, and the scope of change is often revolutionary. Effective strategic management can help deal with this turbulence and, in many cases, has become a key factor for organizational success. Organizations must be flexible and able to respond to these environmental challenges with their strategic processes, implementation procedures, and organizational structure.

An important aspect of strategic management implementation is how this critical information and way of doing business is being infused into the operational end of the business. Strategic management implementation is extremely challenging; lasting implementation is usually the exception, not the rule, due to the resistance to this change of doing business and the many layers of the organization that must be touched with this enhanced way of doing business.

An effective method to implement strategic management is through work teams that are focused or intent with the same strategic goals and missions of the corporate leadership. Teams with a significant level of the same strategic focus on the purpose, objectives, and execution strategies that are aligned with the corporate goals and missions can be an extremely effective implementation tool for the organization. This applies in a similar nature to a student work team in the classroom, attempting to learn new skills and knowledge.

It was hypothesized in this study that if student team members are aligned in their purpose and objectives to the course goals and learning objectives, then higher levels of student team performance or learning will result that is aligned more directly with the course's and the instructors' learning objectives. The team's understanding of and commitment to the course's purpose, objectives, and strategies may help ensure that the team is effectively achieving the reason for being in the course, learning and performing the course's goals and objectives. An objective may be to ensure that the students are aligned to the same strategic focus or intent as the instructors' and course managers' goals of achieving the overall course objectives.

Business and education leaders have been faced with an increasingly changing environment, which increases the need for effective and focused strategic planning and implementation practices. The speed and volume of transformation have increased dramatically in the last century, and this trend is expected to continue at an even greater speed and impact in the 21st century. Speed and change are expected to continue, and with this challenge, more innovative and effective strategic/future-oriented measures must be achieved by business and education leaders to ensure they are able to sustain their operations and maintain the proper strategic focus and intentions. The increased level of change and the need to apply effective structural change initiatives, such as teams, to this environment of change prompted the interest in this study.

This research study obtained empirical data from classroom surveys administered to student work team members attending a 6-week Program Managers' PMT 352B course at Defense Acquisition University (DAU) and to DAU PMT 352B faculty members during a year's period of time (July 2005 to July 2006). The data from the surveys determined each respective student team's Strategic Intent and each team's Self-assessed Team Performance and Instructor-assessed Team Performance. Pearson's *r* correlation



coefficient and Spearman's *rho* ranked-order correlation tests were used to determine the relationship between team Strategic Intent variables and Team Performance—both team self-assessed and instructor-assessed. This paper presents a summary of the reasons for the study and the results of the study which established empirical data to support the general hypothesis that increases in work team strategic intent or focus will cause increases in the work team's performance.

Past research has provided some general discussions and initial studies on the relationship between team characteristics such as Strategic Intent and Team Performance. Previous research has also identified the need for further research, and empirical data were needed in this area of research to determine and measure the relationships between the variables of team strategic thinking (Strategic Intent) and Team Performance (Athanassiou, Crittenden & Kelly, 2000; Bartlett & Ghoshal, 1998; Hamel & Prahalad, 1994; Thompson & Strickland, 1996; Tregoe & Zimmerman, 1989).

Katzenbach and Smith (2003) have accomplished extensive work in the study of teams and their effectiveness. They admitted that no empirical data exist to prove their theories on team effectiveness. This research study provides data to support Katzenbach and Smith's study (2003) and theories on teams: teams can more effective or perform better if they maintain a Strategic Intent or focus that was understood and committed to by all the team members. This paper highlights the purpose of the study, the key concepts studied, the research questions and hypotheses, the results and, finally, some conclusions reached from the study.

Purpose of Study

The purpose of this study was to use survey data from student work teams and instructors' surveys to examine the relationship between work team Strategic Intent (strategic purpose, objectives, and strategies) and work team Performance. The studied work teams were chosen from student work teams attending Defense Acquisition University (DAU) PMT 352B course. PMT 352B is a 6-week-long course which teaches the concepts and skills of being successful program managers. It simulates the conditions and stresses that senior DoD managers are normally presented with in making daily and long-term strategic program management decisions. Team Performance was assessed by surveys administered to the work teams (self-assessment performance) and to the PMT 352B instructors who were teaching the student work teams (external, instructor assessment).

The specific strategic elements studied included the teams' strategic purpose, objectives, and strategies that had been determined in previous academic and business research (Ackoff, 1974; Ansoff & McDonnell, 1990; Athanassiou et al., 2000a, 2000b; Elrod, 1999; Hackman & Wageman, 2005; Kraft, 1996; Schein, 1980; Thompson, 1993), related to the decision-making success of an organization and having an effect on organizational performance and long-term successes.

Strategic thinking and alignment of this thinking have been used in past research to measure a team's ability to agree among the members on strategic goals, objectives, and strategies that focus on or align the team's efforts on shared performance objectives (Athanassiou et al., 2000a). This alignment or cohesiveness in strategic thinking in the Athanassiou et al. studies (2000a, 2000b) was measured to determine the difference or variance between the leader's and the team's perceptions and commitments to the same strategic elements (team goals, objectives, and strategy). They were studied to determine



the effects on performance. In most cases, the higher the alignment or congruence in strategic thinking, the better the performance of the team and its associated business outcomes (financial and social).

This research study acquired empirical data from student work team members attending classes in PMT 352B. The strategic characteristics of specific PMT 352B student work teams were calculated from information gathered from team surveys. These students were mature (generally 35 to 60 years of age) Department of Defense (DoD) students attending this technical training course on program management with Defense Acquisition University. The teams' understanding of and commitment to their respective team's strategic management characteristics was measured by surveys administered to the teams in their location of work (the classroom) by the researcher and trained faculty members. The surveys obtained each team member's perceptions of his understanding of and commitment to the specific team strategic elements studied in this research—team purpose, objectives, and strategies. These strategic elements helped define the teams' strategic characteristics and were defined in the team survey, so there was an understanding of these variables by the survey respondents. This helped define what were the strategic elements being studied and what were the data the researcher was seeking.

Data were collected from each team member on his perception of how similar or linked was his understanding of and commitment to the team compared to the other members of the team's understanding of and commitment to the team's purpose, objectives, and strategies. Team similarity was measured both in terms of understanding and commitment to these strategic elements.

The research calculated team data on team similarity of team strategic characteristics as measured by understanding and commitment to team purpose, objectives, and strategies. The research analyzed the relationship of these strategic characteristics (similar understanding of and commitment to team purpose, objectives, and strategies) to Team Performance—measured by the team's self-assessment of its performance and by an external assessment by the team's instructor(s). The study then analyzed the relationship or similarity between a team's self-assessment of its performance and the instructors' external assessment of the same team's performance. The researcher theorized that the similarity or alignment of a team's purpose, objectives, and strategies was a strong predictor (a direct correlation) of how well the team members worked together and effectively communicated in making critical choices vital to the successful performance of the team. Team effectiveness in making decisions and accomplishing the course objectives was theorized to be related to the congruence or alignment of each team member's individual similarity perceptions of his strategic characteristics to the other members on the team.

This congruence was measured in terms of the member's understanding of and commitment to the other team members' strategic elements of purpose, objectives, and strategies. How congruent or similar the members' strategic characteristics were, the more effective the team should be in accomplishing its purpose, objectives, and strategies. Accomplishing these team strategic elements would make the team perform better, both as determined by the team's own standards and by the instructors' criteria of learning the course objectives. The following research model in Figure 1 helped to identify the variables (independent and dependent), research questions, hypotheses, and relationships involved in this research study. The next two sections highlight the two key variables studied: Strategic Intent and Team Performance.



Strategic Intent

The research model in Figure 1 highlights the key variables and relationships studied in this research. The Strategic Intent of the team is defined and highlighted in the figure as consisting of three team strategic elements: purpose, objectives, and strategies. Strategic Intent is further defined as to how each team member was focused or had similarly aligned understanding of and commitment to the team's strategic elements (purpose, objectives, and strategies), as measured by surveying each team member. The actual measurement of Strategic Intent was then computed by measuring the overall average team scores for Strategic Intent from the individual members' scores on the team survey.

One of the basic reasons for using the term "Strategic Intent" to highlight the strategic thinking or focus of the teams in this study was to use the previous work of Hamel and Prahalad (1989) in this conceptual or research area. Strategic Intent captures the meaning and nature of the characteristics most representative of what exists in teams or other groups that highlight what they think and perceive about their future goals, vision, or purpose. As discussed by Hamel and Prahalad, an organization's Strategic Intent or focus is part of the "dream that energizes a company and is more sophisticated and more positive than a simple war cry" (p. 64). These two authors highlighted that Strategic Intent implies a sense of organizational direction, discovery, and destiny. They explained that Strategic Intent is more than the implied particular point of view about the long-term market or competitive position that an organization hopes to build over the coming decade or so. It is the stated and vital focus that makes an organization competitive and driven toward a vision, a future direction, or a destiny that consumes its nature and reason for being (Hamel & Prahalad, 1989). These are the characteristics most representative of what this research desired to study and why the research was originally conducted.

This research study embraced a similar meaning and value to team Strategic Intent developed by Hamel and Prahalad—the committed and understood strategic elements of the team that united or focused team actions and decisions as measured by the team's commitment to and understanding of the team's purpose, objectives, and strategies.

In this research, teams were considered important to facilitating strategy implementation and integration when properly focused on the organization's strategic purpose, objectives, and strategies. The strategic focus or intent of teams was studied to determine what relationship strategic intent has on overall Team Performance. Studying this relationship in teams could have a direct bearing on how these same variables (Strategic Intent and Performance) are related in larger organizations, such as divisions, business units, plants, and firms.

Adequate controls of the decision-making processes are in place within the focused team, which facilitate it to be more effective and successful as a decision-maker in focusing on the team purpose and objectives. Additionally, it can also make the team more integrated and focused within the overall organizational structure, enabling or leveraging the organization itself to be higher performing in the long term. Properly disciplined, focused, and integrated teams are the ones that become high-performing teams, and they have been considered "the most versatile unit organizations have for meeting both performance and challenges in today's complex world" (Katzenbach & Smith, 2003, p. xiii).

In their book, *Built to Last: Successful Habits of Visionary Companies*, Jim Collins and Jerry Porras (1994) described the strategic elements or intent needed to ensure that



effective strategic decisions can be made. In their study of 18 highly successful visionary companies, Collins and Porras highlighted that core ideologies are relevant to making effective strategic choices. It's what "drives" these companies to conform to be successful in developing new products and services. This same emphasis on Strategic Intent was previously highlighted by Ansoff and McDonnell (1990) and Mintzberg (1994).

The premise of Collins and Porras' 1994 book is that core ideology or Strategic Intent provides the foundation for the continual successes of the 18 visionary companies, the performance of which the researchers tracked over a 6-year period. These companies were standouts in their industry, and Collins and Porras theorized that the reasons for their continual successes were directly related to the existence of a core ideology upon which the firms and their upper-echelon management teams based their existence and strategic behavior. Their book concludes that if the core ideology of a firm and its strategic thinking are properly aligned with the environment, the firm and its thinking will have a greater opportunity to be successful in the long term, and it will bring in above-average performance returns and profits.

The work conducted by Collins and Porras is noteworthy and highlighted the usefulness of Strategic Intent or core ideologies in determining successful performance. Their premise is that based on their study and thinking of core ideologies, firms are able to sustain their outstanding performance in the competitive market by staying focused on their core ideologies. Their study, although popular with business leaders, is limited in the empirical sense since no hard data exist in their studies that prove or empirically support their theories. They have significant anecdotal information and cases but not empirical data. As discussed, the purpose of this study was to help identify and collect empirical data on the effects of Strategic Intent on performance.

Team Performance

The concept of Team Performance and how to measure it is critically important to the successful deployment of teams in any environment (Kraft, 1996). There is the general belief that teams make organizations more effective. However, few research efforts have measured team effectiveness with empirical data. The research cited in this study focused primarily on the manufacturing teams that can be assessed using operational measures such as productivity, efficiency, delivery time, defects, and scrap (Beyerlein, 1995). Some of the challenges presented in this research study on measuring Team Performance were similar to many studies that relied upon self-reported assessments, especially when measuring Team Performance. Team Performance has been studied extensively, and many techniques exist to measure it. How to measure Team Performance in the classroom or even in a program office environment is a challenge without using self-reported or self-assessed performance measures or data.

Podsakoff and Organ's (1986) work highlighted that the most critical concern was that the use of self-reports was identifying the potential causes of "artifactual covariance" between self-report measures of what were presumed to be two distinctly different variables. They stressed that when the same persons provided the researcher with self-report measures of two or more different constructs, what could account for any correlations that were found in the research could be a result of the "artifactual covariance" and bias in the respondents' self-reported data and not the natural correlation between the variables. In other words, false correlations would be assumed in the research, based on the nature ("artifactual covariance") of the self-reported data and not on the actual relationship



occurring in the cases analyzed. The authors highlighted several techniques to reduce the effects of this overlapping influence of the respondents' self-reported data. All of these methods were highlighted as a means to reduce the effects of obtaining data from self-reports.

The Podsakoff and Organ (1986) article highlighted, though, that under specific conditions it seems that self-report data in organizational studies are "here to stay." They also reported on another study by Howard, Maxwell, Weiner, Boynton and Rooney . (1980), which noted that under many circumstances, self-reports might represent more accurate estimates of population parameters than behavioral measures. Podsakoff and Organ also stressed in their study that it is unlikely that such techniques of using self-reports will be abandoned. They do recommend that caution be taken to ensure that the right conditions exist to minimize the effects of self-reported data on the correlations and conclusions made concerning the data relationships. Gupta and Behr (1982) emphasized that despite the problems in the use of self-report measures in organizational research, the practical utility of self-reported data makes them a necessity to organizational behavior studies. Self-report data are extremely useful and make them "virtually indispensable in many research contexts" (Podsakoff & Organ, 1986, p. 540).

In the context of this research, the application and usefulness of self-reported data from team members attending PMT 352B courses are justified, based on the fact that the self-reported data are collected at different locations/settings, at different times, and using consistent but varying instructors in gathering the data and that the data are aggregated at the team level (one level above the team-member level, where the data were originally gathered). These are all methods, as explained by Podsakoff and Organ (1986), which reduce the negative effects of self-reported data.

The nature of the data used in this research also necessitated that to obtain team characteristics on Strategic Intent, the natural source of the information would be from the team members. The team members were the most reliable source of information on how they thought about the Team Performance and how similar they perceived their beliefs to be regarding team purpose, objectives, and strategies (Strategic Intent). It would be difficult, if not impossible, to obtain "true" unbiased, objective data on teams' perceptions of their strategic thinking and their performance without using self-reported data.

The effects of self-reported data have been assessed in this research. It was determined that given the nature of the self-reported team member data (aggregated at team level, collected from different sources, locations, and times), the effects of "artifactual covariance," as highlighted by Podsakoff and Organ (1986), were minimized in this research.

It is evident that the problems of measuring Team Performance are very complex and difficult to pinpoint. The existing performance measurement systems in place in an organization are usually not aligned with new initiatives or changes, such as team development, occurring in today's workplace. In most of these cases, the measurement systems do not adequately reflect the impact on efficiency and effectiveness of the latest initiatives (Beyerlein, 1995). Because of these many difficulties with the lack of integrated performance-measurement systems and the complexities of how teams affect organizations, it is difficult, if not impossible, to effectively measure the value of teams with existing databases or performance-management systems. Therefore, it is believed that the only



effective way to measure Team Performance is through self-assessment of Team Performance. Lets know understand the study's research questions and hypotheses.

Research Questions and Hypotheses

This study was concerned with a general broad research question that focused on determining the relationship between work team Strategic Intent and Team Performance. The purpose of the study was to complete a thorough, descriptive, correlational relationship study on the six team Strategic Intent variables dealing with the teams' strategic thinking and on the performance of the teams as assessed by the team members themselves and by the teams' instructors in PMT 352B program management courses.

The research study gathered empirical evidence to answer these research questions and provided data to support these hypotheses:

RQ1. What was the relationship between the overall Team's Strategic Intent and the overall Team's Performance (team member self-assessment)?

Ha1. There was a statistically significant relationship between the overall Team's Strategic Intent (Independent variable/interval data) and the overall Team's Performance (team member self-assessment) (Dependent variable/interval data). The statistical test used was the Pearson's r correlation coefficient.

RQ2. What was the relationship between the Team's Strategic Intent as measured by the two variables a-b below and Team Performance (team member self-assessment)?

- a. Understanding of Team Purpose
- b. Commitment to Team Purpose

Ha2. There was a statistically significant relationship between the Team's Strategic Intent as measured by the two variables (Independent variable/interval data) a-b below and Team Performance (team member self-assessment) (Dependent variable/interval data). The statistical test used was the Pearson's r correlation coefficient.

- a. Understanding of Team Purpose
- b. Commitment to Team Purpose

RQ3. What was the relationship between the Team's Strategic Intent as measured by the two variables a-b below and Team Performance (team member self-assessment)?

- a. Understanding of Team Objectives
- b. Commitment to Team Objectives

Ha3. There was a statistically significant relationship between the Team's Strategic Intent as measured by the two variables (Independent variable/interval data)



a-b below and Team Performance (team member self-assessment) (Dependent variable/ interval data). The statistical test used was the Pearson's r correlation coefficient.

- a. Understanding of Team Objectives
- b. Commitment to Team Objectives

RQ4. What was the relationship between the Team's Strategic Intent as measured by the two variables a-b below and Team Performance (team member self-assessment)?

- a. Understanding of Team Strategies
- b. Commitment to Team Strategies

Ha4. There was a statistically significant relationship between the Team's Strategic Intent as measured by the two variables (Independent variable/ interval data) a-b below and Team Performance (team member self-assessment) (Dependent variable/interval data). The statistical test used was the Pearson's r.

- a. Understanding of Team Strategies
- b. Commitment to Team Strategies

RQ5. What was the relationship between the overall Team's Strategic Intent and the overall Team's Performance (external instructor assessment)?

Ha5. There was a statistically significant relationship between the overall Team's Strategic Intent (Independent variable/interval data) and the overall Team's Performance (external instructor assessment) (Dependent variable/interval data). The statistical test used was the Pearson's r.

RQ6. What was the relationship between the Team's Strategic Intent as measured by the six variables a-f below and Team Performance (external instructor assessment)?

- a. Understanding of Team Purpose
- b. Commitment to Team Purpose
- c. Understanding of Team Objectives
- d. Commitment to Team Objectives
- e. Understanding of Team Strategies
- f. Commitment to Team Strategies

Ha6. There was a statistically significant relationship between the Team's Strategic Intent as measured by the six variables (Independent variable/interval data) a-



f below and Team Performance (external instructor assessment) (Dependent variable/ interval data). The statistical test used was the Pearson's r Correlation Coefficient.

- a. Understanding of Team Purpose
- b. Commitment to Team Purpose
- c. Understanding of Team Objectives
- d. Commitment to Team Objectives
- e. Understanding of Team Strategies
- f. Commitment to Team Strategies

RQ7. What was the relationship between the overall Team's Performance (self-assessment from team survey) and the overall Team's Performance (Instructor assessment from instructor survey)?

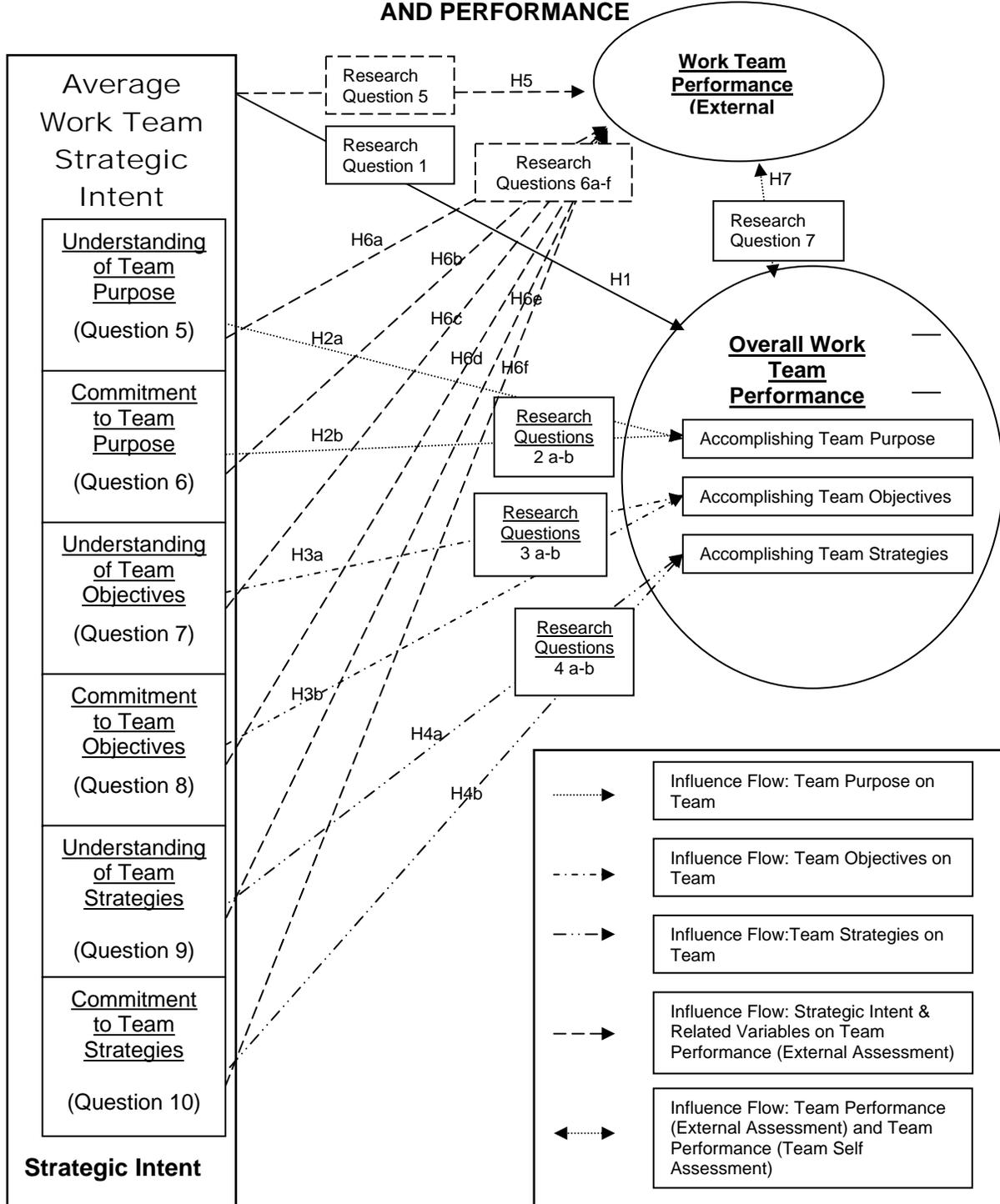
Ha7. There was a statistically significant relationship between the overall Team's Performance (self-assessment from team survey) and the overall Team's Performance (instructor assessment from instructor survey). The statistical test used was the Pearson's r correlation coefficient.

The following figure highlights the relationships, research questions and hypotheses of the study.



Figure 1. Research Model with Hypotheses

DETAILED RESEARCH MODEL: WORK TEAM STRATEGIC INTENT AND PERFORMANCE



Instrumentation

There were two surveys involved in the data accumulation. The first survey was the team survey. The second survey was the instructor survey. A team-member survey questionnaire consisted of scaled questions. The scaled questions included 4-point Likert scales and continuous rating scales (1, low/not similar, to 4, high/extremely similar) on the items related to evaluating the similarity of the strategic elements of purpose, objectives, and strategies. Five-point Likert-scale questions were used to evaluate Team Performance, both on the team-member survey and the separate instructor survey (1, low/poor, to 5, high/excellent). The team-member questionnaire was divided into categories related to the variables in the study: purpose, objectives, and strategies. Headings and numbering of questions were used to segregate the categories. In both surveys, definitions were provided for the key variables to aid in the understanding of the key concepts and variables in this research and to aid in the accuracy of the responses. Demographic information on the survey participants was collected on the team-members' survey.

The Team Survey instrument (see Appendix A) was divided into four parts and contained 14 questions. Part 1 and 4 were questions that collected team and student information respectively and required short, circled answers. Part 2 was composed of six questions related to Strategic Intent on 4-point Likert scales. Part 3 was composed of three questions related to Team Performance on 5-point Likert scales.

The Team Performance was also measured by the assigned DAU PMT 352B instructors. The Instructor Survey provided data for measuring the Instructor-assessed Team Performance. The first four questions on the Instructor Survey asked the instructors for data on the team's name, location of the class, and dates of the class. Question 4 asked the instructor to evaluate or assess the individual team's performance in accomplishing the course objectives. The instructors rated the teams on a 5-point Likert scale of poor (1) to excellent (5). Comments were also requested. The next section discusses the sample that was studied.

Research Sample Population

Fifty-seven data points or teams were collected from the population of teams enrolled in PMT 352B courses. The acquired empirical data from 12 PMT 352B classes were obtained from surveys conducted in the classroom from 57 student teams, their respective student members (327), and 32 team instructors. The students were Department of Defense (DoD) career acquisition professionals attending the technical training course (PMT 352B) at one of the five Defense Acquisition University campuses. This research was a co-sponsored DAU/Alliant International University research project. The instructors were certified DAU instructors, aged 35-60 years of age.

Demographic information was analyzed from the surveys also. Pearson's r correlation coefficient tests were used to test the correlation between team average age and team average years of experience to Strategic Intent, Team-assessed Team Performance, and Instructor-assessed Performance. Spearman's ρ rank-order and Pearson's r correlation coefficient tests were used to determine the relationships between team educational levels to Strategic Intent, Team-assessed Team Performance, and Instructor-assessed Team Performance since the data (Educational Levels) were nominal data.



Overall Research Summary and Findings

Table 20 highlights the relative strength of each of the Pearson's r tests that were conducted in the study, including those identified in additional findings. Appendix B contains the actual SPSS test results. The italicized entries below identify the original 15 Research Question hypotheses, which were all supported at the .05 significance level with their p -values. All but the last entry (Question 9 to Instructor Performance) were supported at a .01 significance level. All the tests were supported at the .05 significance level.

For this paper, the following strength of the relationship or support was used: Pearson's r greater than .7 is considered a strong relationship; from .5 to .699 it is considered a moderate relationship; and from .3 to .499 it is considered a modest relationship/support.

Table 1. Relative Strength of Tested Variables in This Study

Variables	Rank	Pearson's r	p -value	Results
Question 8 (CO) TO Overall Strategic Intent	1	.921	.000**	Strongly Supported
Question 10 (CS) TO Overall Strategic Intent	2	.884	.000**	Strongly Supported
Question 7 (UO) TO Overall Strategic Intent	3	.880	.000**	Strongly Supported
Question 6 (CP) TO Overall Strategic Intent	4	.871	.000**	Strongly Supported
Question 9 (US) TO Overall Strategic Intent	5	.817	.000**	Strongly Supported
Question 5 (UP) TO Overall Strategic Intent	6	.793	.000**	Strongly Supported
<i>Overall Strategic Intent TO Overall Team Performance</i>	7	<i>.731</i>	<i>.000**</i>	<i>Strongly Supported</i> <i>Hypothesis 1</i>
Overall Strategic Intent TO Question 11	8	.724	.000**	Strongly Supported
Overall Strategic Intent TO Question 12	9	.706	.000**	Strongly Supported
Overall Strategic Intent TO Question 13	10	.680	.000**	Moderately Supported



Variables	Rank	Pearson's <i>r</i>	<i>p</i> -value	Results
Question 10 (CS) TO Overall Team Performance	11	.673	.000**	Moderately Supported
Question 9 (US) TO Overall Team Performance	12	.671	.000**	Moderately Supported
Question 8 (CO) TO Overall Team Performance	13	.664	.000**	Moderately Supported
Question 7 (UO) TO Overall Team Performance	14	.662	.000**	Moderately Supported
<i>Question 8 (CO) TO Question 12</i>	15	.658	.000**	<i>Moderately Supported</i> <i>Hypothesis 3b</i>
<i>Question 7 (UO) TO Question 12</i>	16	.643	.000**	<i>Moderately Supported</i> <i>Hypothesis 3a</i>
<i>Question 10 (CS) TO Question 13</i>	17	.640	.000**	<i>Moderately Supported</i> <i>Hypothesis 4b</i>
<i>Instructor Performance TO Overall Team Performance</i>	18	.630	.000**	<i>Moderately Supported</i> <i>Hypothesis 7</i>
<i>Question 9 (US) TO Question 13</i>	19	.625	.000**	<i>Moderately Supported</i> <i>Hypothesis 4a</i>
Question 6 (CP) TO Overall Team Performance	20	.604	.000**	Moderately Supported
<i>Question 6 (CP) TO Question 11</i>	21	.594	.000**	<i>Moderately Supported</i> <i>Hypothesis 2b</i>



Variables	Rank	Pearson's <i>r</i>	<i>p</i> -value	Results
<i>Question 5 (UP) TO Question 11</i>	22	.513	.000**	<i>Moderately Supported</i> <i>Hypothesis 2a</i>
Question 5 (UP) TO Overall Team Performance	23	.495	.000**	Modestly Supported
<i>Question 10 (CS) TO Instructor Performance</i>	24	.486	.000**	<i>Modestly Supported</i> <i>Hypothesis 6f</i>
<i>Question 7 (UO) TO Instructor Performance</i>	25	.466	.000**	<i>Modestly Supported</i> <i>Hypothesis 6c</i>
<i>Overall Strategic Intent TO Instructor Performance</i>	26	.463	.000**	<i>Modestly Supported</i> <i>Hypothesis 5</i>
<i>Question 8 (CO) TO Instructor Performance</i>	27	.405	.002**	<i>Modestly Supported</i> <i>Hypothesis 6d</i>
<i>Question 6 (CP) TO Instructor Performance</i>	28	.352	.007**	<i>Modestly Supported</i> <i>Hypothesis 6b</i>
<i>Question 5 (UP) TO Instructor Performance</i>	29	.349	.008**	<i>Modestly Supported</i> <i>Hypothesis 6a</i>
<i>Question 9 (US) TO Instructor Performance</i>	30	.330	.012*	<i>Modestly Supported</i> <i>Hypothesis 6e</i>

Note: * Correlation is significant at the .05 level (two-tailed test); ** Correlation is significant at the .01 level (two-tailed test).

The first six entries/cases in the table above highlight the strongly supported relationship between the six individual questions in the team survey (Questions 6-10) and overall team Strategic Intent. These relationships are high in magnitude or strength because Team Strategic Intent is defined by the average of all the team members' responses to the six questions related to the team's understanding and commitment to the team's purpose (Questions 5 and 6 respectively), understanding and commitment to the team's objectives (Questions 7 and 8 respectively), and understanding and commitment to the team's strategies (Questions 9 and 10 respectively). These results make sense and provide no real insight into the research except that Question 8 (Team Understanding of Objectives) has the greatest strength of .921. This indicates that this question has the greatest effect on overall Team Strategic Intent. Managers should be aware that developing



a strong sense of understanding of team objectives among team members will have the most significant (largest) effect on the team's overall Strategic Intent perception. This can also have an effect on Team-assessed and Instructor-assessed Team Performance. This is consistent with the fact that Question 8 has the strongest relationship to Question 12 in terms of comparing Strategic Intent questions to their related Team Performance question. "Understanding the team objectives" as a variable plays a major role in both these relationships.

The strength of the relationship between overall Team Strategic Intent and Team Performance (Hypothesis 1) at .731 underscores the influence that strategic thinking or developing clear and understandable strategic elements in a team affects how the team will assess its performance. This is a vital source of information to educators, team and business leaders, and team sponsors/stakeholders. This highlights that a team with a clear set of strategic characteristics of a team purpose, objectives, and strategies will more probably develop a strong sense of being a high-performing team. Believing this will empower the team to greater team results and even more focused performance. This should also produce better results for the organizations that sponsor them. The leader of this team also needs to know that a focused, intent team will believe it will perform well.

Overall Team Strategic Intent is a key variable in this study and is analyzed/tested in 11 of the cases identified in Table 1 above. The strength of the relationship between Strategic Intent (SI) and Team Performance at .731 is compared to the same relationship between Strategic Intent and Instructor-assessed Performance at .463. This indicates that team strategic thinking has a greater relationship to or effect upon Team-assessed Team Performance than its effect on Instructor-assessed Performance. The strength of team Strategic Intent on the instructors' assessment is significant, nonetheless, and indicates that team strategic thinking not only affects Team Performance but also how the team's instructors assessed the team's performance.

Strategic Intent is a strong force in or predictor of team dynamics and development. Additional future studies should be made to understand how Team Strategic Intent is related to other indicators of team success or performance, such as quality of work, timeliness, problem-solving effectiveness, and overall team productivity. Overall Strategic Intent (SI) has a strong relationship not only to overall Team Performance at .731 but also when tested against the three questions that create Team Performance. The results are the following: 724 (Question 11 to SI), .706 (Question 12 to SI), and .680 (Question 13 to SI). This is to be expected and again underscores the strength and value of understanding the effects and strength of Team Strategic Intent on Team Performance. Additional Pearson's *r* correlation coefficient tests highlight that when the individual Strategic Intent questions (5-10) are compared to the overall Team-assessed Team Performance, significant (.01) relationships occur. In fact, the results of these tests are similar in strength to the results obtained on the tests between the Strategic Intent questions to their related individual Team-assessed Performance questions (11-13).

Here are the comparisons: Question 5, Understanding Team Purpose (Team Performance: .495; Question 11: .513); Question 6, Commitment to Team Purpose (Team Performance: .604; Question 11: .594); Question 7, Understanding Team Objectives (Team Performance: .662; Question 11: .643); Question 8, Commitment to Team Objectives (Team Performance: .664; Question 11: .658); Question 9, Understanding Team Strategies (Team Performance: .671; Question 11: .625); and Question 10,



Commitment to Team Strategies (Team Performance: .673; Question 11: .640). All of these results have p-values of .000**.

In summary, it is concluded that these additional tests on various Strategic Intent questions and overall Team-assessed Performance provided additional support to the previously conducted hypotheses tests. A more robust test was comparing the Strategic Intent questions (5-10) to the related Team-assessed Performance questions (11-13). The results moderately supported the direct relationship between these sets of variables. There was a moderately supported relationship between Team Strategic Intent and Team-assessed Performance with all three methods: (a) overall Team Strategic Intent to Overall Team Performance (Research Question 1 and Hypothesis 1), (b) results of individual Strategic Intent questions 5-10 to individual related Team Performance questions 11-13 (Research Questions 2a, 2b, 3a, 3b, 4a, and 4b), and (c) individual Strategic Intent questions 5-10 to overall Team Performance (see Table 20 results).

Additional Findings on Demographics Data

Additional tests were conducted on the measured demographic information and its relationship to overall team Strategic Intent, Team-assessed Team Performance, and Instructor-assessed Team Performance. Twelve tests were conducted, and only 3 tests were supported at least the .05 significance level. Two supported tests related Team Educational Level to Team-assessed Performance and to Instructor-assessed Team Performance. Pearson's *r* and Spearman's *rho* correlation tests both indicated a positive relationship between Team Educational Level and overall Team-assessed Team Performance and Instructor-assessed Team Performance at a .05 significance level.

Educational level can make a difference in Team Performance, both as assessed by the team itself and by the instructors. Although not significant at .05, there is also a positive effect on overall Team Strategic Intent by team Educational Level. Although not statistically significant, there does appear to be some indication that using teams is an effective learning technique in education, and business leaders employing teams in their organizations who want to enhance strategic implementation of corporate strategic goals and initiatives should be aware that teams with higher educational levels tend to have higher Team Strategic Intent ($r = .239$, not significant at .05), higher overall Team-assessed Team Performance ($r = .296$, p -value = .025*), and higher Instructor-assessed Team Performance ($r = .441$, p -value = .001**). Educational Level has a positive effect on these three research variables. Education has a rather significant effect on Instructor-assessed Team Performance ($r = .441$).

Team age and years of experience have a negative effect on Team Strategic Intent, on overall Team-assessed Team Performance, and on Instructor-assessed Team Performance. The strength of the relationships is low, and the significant levels are high. No relationship was supported at the .05 significance level. Although not supported statistically at an alpha of .05, this was of interest to the researcher. Age and experience have negative relationships to all the research variables: Strategic Intent, Team-assessed Team Performance, and Instructor-assessed Team Performance.

There is a moderately strong relationship between Team Experience and Team Age ($r = .643$, p -value = .001**). This is logical, and passed the common-sense test. The results do not affect this research but highlight the strength of the survey data to develop conclusions regarding the survey sample.



Conclusions

The main conclusions in this research are the following:

1. There is a statistically significant relationship between the overall team Strategic Intent and overall Team-assessed Team Performance. Teams that have high overall team Strategic Intent (team purpose, objectives, and strategies) also have high overall Team-assessed Team Performance.
2. There is a statistically significant relationship between the individual team Strategic Intent questions (5-10) and overall Team-assessed Team Performance. Teams that have high results on individual team Strategic Intent questions (5-10) also have high results on overall Team-assessed Team Performance.
3. There is a statistically significant relationship between the individual team Strategic Intent questions (5-10) and individual Team-assessed Team Performance questions (11-13). Teams that have high results on individual team Strategic Intent questions (5-10) also have high results on individual Team-assessed Team Performance questions (11-13).
4. There is a statistically significant relationship between the overall team Strategic Intent and overall Instructor-assessed Team Performance (Question 4). Teams that have high overall team Strategic Intent (team purpose, objectives, and strategies) also have high Instructor-assessed Team Performance (Question 4).
5. There is a statistically significant relationship between the individual team Strategic Intent questions (5-10) and individual Instructor-assessed Team Performance (Question 4). Teams that possessed high scores on each individual Question 5-10 dealing with team Strategic Intent also had high Instructor-assessed Team Performance.
6. There is a statistically significant relationship between the overall Team-assessed Team Performance (Questions 11-13) and overall Instructor-assessed Team Performance (Question 4). Teams that have high overall Team-assessed Team Performance (Questions 11-13) also have high Instructor-assessed Team Performance (Question 4).
7. There is a statistically significant relationship between the overall Team Educational Level and overall Instructor-assessed Team Performance (Question 4). Teams that have high overall Team Educational Level also have high Instructor-assessed Team Performance (Question 4). There is some indication (supported at .05 significance level) that there is also a relationship between the overall Team Educational Level and *both* overall Team-assessed Team Performance (Questions 11-13) (supported at .05 significance level) and overall Strategic Intent (Questions 5-10) (not supported at .05 significance level).
8. There is some indication (not supported at .05 significance level) that there is also an indirect or negative relationship between the overall Team Average Age and *all* of the following: (a) overall team Strategic Intent (Questions 5-10), (b) overall Team-assessed Team Performance (Questions 11-13), and (c) overall Instructor-assessed Team Performance (Question 4).

There is some indication (not supported at .05 significance level) that there is also an indirect or negative between the overall Team Average Years Experience and *all* the



following: (a) overall team Strategic Intent (Questions 5-10), (b) overall Team-assessed Team Performance (Questions 11-13), and (c) overall Instructor-assessed Team Performance (Question 4). The strengths of these relationships and significance levels do not allow for statistical significance of these relationships. The interesting aspect of these studies highlight that with more data and research, age and experience may have statistically significant negative effects on the research variables of overall team Strategic Intent, Team-assessed Team Performance, and Instructor-assessed Team Performance.

Concluding Statement

Teams can be a significant resource to business leaders and lead to greater program successes. Little empirical data exist on what strategic characteristics make teams more effective. Does a work team's success depend on how strategically focused or intent the team is? Do team-developed purpose, objectives, and strategies (strategic intent) have an effect on how well teams perform? This research study hypothesized and proved that work team strategic intent characteristics (team-developed purpose, objectives, and strategies) were directly or positively related to the performance of student work teams.

Significant positive correlation relationships were found in all 15 studied hypotheses between work team strategic intent and team performance as measured by team self-assessments and instructor assessments. Additionally, a positive correlation was found between the team self-assessment of performance and the instructors' assessment of the team performance.

The research provided significant empirical data on the positive correlation relationships between work team strategic intent and work team performance. It also defined the characteristics that were used to determine the strategic intent of a work team or any work unit. It created empirical support for Katzenbach and Smith's theories from their studies in *The Wisdom of Teams: Creating the High-performance Organization* (2003) on the success of real teams, based on being committed to a common purpose and performance goals. Additionally, it created a survey to measure the strategic intent of team members and teams in general. Finally, it introduced the study of strategic thinking or use of strategic intent as a method or process for evaluating team performance.

The complexity of team performance and the large number of future potential influences and additional areas of research needed on teams were highlighted in the research. This may help explain why so many organizations using teams in both the public and private sector today are having difficulty as they try to reposition themselves in an ever more turbulent environment and why teams are often not as effective or successful as possible.

Properly disciplined, focused, and integrated teams are the ones that become high-performing teams, and are considered "the most versatile unit organizations have for meeting both performance and challenges in today's complex world" (Katzenbach & Smith, 2003, p. xiii). This study has identified that Strategic Intent or clearly focused team purpose, objectives, and strategies can make teams more high-performing and even more versatile and effective in an organization—both in the short and long term.



References

- Ackoff, R. L. (1974). *Redesigning the future: A systems approach to societal problems*. New York: Wiley.
- Ansoff, H. I., & McDonnell, E. J. (1990). *Implanting strategic management*. Essex, England: Prentice Hall Europe.
- Athanassiou, N., Crittenden, W. F., & Kelly, L. M. (2000a, Winter). Founder centrality and strategic behavior in the family-owned firm. *Entrepreneurship: Theory and Practice*, 25(2), 27-42.
- Athanassiou, N., Crittenden, W. F., & Kelly, L. M. (2000b, in press). Founder centrality effects on the Mexican family firm's top management group: Firm culture, strategic vision and goals, and firm performance. Article submitted to *Academy of Management Journal*.
- Bartlett, C. A., & Ghoshal, S. (1998). Beyond the Russian doll management model. In D. C. Hambrick, D. A. Nadler, & M. L. Tushman (Eds.), *Navigating change: How CEOs, top teams and boards steer transformation* (pp. 70-97). Boston, MA: Harvard Business School Press.
- Bennis, W. G. (1985). *Leaders: The strategies for taking charge*. New York: Harper and Row.
- Bennis, W. G., & Biederman, P. W. (1997). *Organizing genius: The secrets of creative collaboration*. Reading, MA: Addison-Wesley.
- Beyerlein, M. (1995). Measuring team performance: The literature. *Work Team Newsletter*, 5(3), 93-99. Denton, TX: University of North Texas.
- Collins, J. C., & Porras, J. I. (1994). *Built to last. Successful habits of visionary companies*. New York: Harper Collins Publishers.
- Elrod, D. P. (1999). *An empirical study of the relationship between team performance and team maturity*. Unpublished doctoral dissertation, University of Alabama, Huntsville.
- Hackman, J. R., & Wageman, R. (2005). A theory of team coaching. *The Academy of Management Review*, 30(2), 269-287.
- GAO. (2001, April 10). *Best practices: DoD teaming practices not achieving potential results* (GAO-01-510). Washington, DC: author.
- Gupta, N., & Beehr, T. A. (1982). A test of the correspondence between self-reports and alternative data sources about work organizations. *Journal of Vocational Behavior*, 20, 1-13.
- Hamel, G., & Prahalad, C. (1989, May-June). *Strategic intent*. *Harvard Business Review*, 63-76.
- Hamel, C., & Prahalad, G. (1990, May-June). The core competence of the corporation. *Harvard Business Review*, 79-91.



- Howard, G. S., Maxwell, S. E., Weiner, R. L., Boynton, K. S., & Rooney, W. M. (1980). Is a behavioral measure the best estimate of behavioral parameters? Perhaps not. *Applied Psychological Measurement, 4*, 293-311.
- Katzenbach, J. R., & Smith, D. K. (2003). *The wisdom of teams: Creating the high-performance organization*. New York: Harper Collins Publishers.
- Kraft, R. (1996). *The relationship of team leadership and work team performance*. Unpublished doctoral dissertation, George Washington University, Washington, DC.
- Lawler, E., Mohrman, S.A., & Ledford, G.E., Jr. (1995). *Creating high performance organizations: Practices and results of employee involvement and TQM in Fortune 1000 Companies*. San Francisco, CA: Jossey-Bass.
- Manz, C. C., & Sims, H. P. (1987). Leading workers to lead themselves: The external leadership of self-managing work teams. *Administrative Science Quarterly, 32*(1), 106-128.
- Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management, 12*, 531-542.
- Schein, E. H. (1980). *Organizational psychology* (3rd ed.). Englewood Cliffs, NJ: Prentice-Hall.
- Thompson, J. L. (1993). *Strategic management: Awareness and change*. New York: Chapman & Hall.
- Thompson, A. A., & Strickland, A. J. (1996). *Strategic management: Concepts and cases*. Chicago, IL: Irwin.
- Tregoe, B. B., & Zimmerman, J. W. (1989). *Vision in action*. London: Simon & Schuster.
- Wellins, R. S., Byham, W. C., & Wilson, J. M. (1991). *Empowered teams: Creating self-directed work groups that improve quality, productivity and participation*. San Francisco, CA: Jossey-Bass.

Appendix A. Team Survey

WORK TEAM INTENT AND WORK TEAM PERFORMANCE

This is a university doctorate-level and Defense Acquisition University co-sponsored survey. It will contribute to advancing the body of knowledge to help identify if and how much the alignment of work team strategic intent (which relates to work team purpose, objectives, and strategies) contribute to work team performance. This information will help enhance work team performance effectiveness in DAU classrooms and in DoD organizations.



The information gathered in this questionnaire is confidential. No specific response will be shared with any respondent. Only aggregate information will be discussed in this study.

No specific information about you personally or your team will be released.

The survey is optional. If you do not want to complete the survey inform the researcher or instructor that is administering the survey.

Consent: Your completion of this survey and submittal to the researchers provide your consent to the researcher to use the data in the survey to conduct analyses and determine the results and conclusions related to their research.

**Additional Information, Completed Surveys, and Requests
for Results of this Research Should be Sent to:**

Tom Edison
Alliant International University
536 H Ave
Coronado, Calif. 92118
Tel: 619-437-4123 (Home)
619-524-4815 (Work)
tom.edison@dau.mil

Thank you very much for your cooperation!

Work Team Information

Please fill in the blanks below:

1. Name and/or number assigned to your work team: _____.
2. Date (month/day/yr) your work team began its work (date class began) and ended: class began from _____ and lasted to _____.
3. Specific stated purpose/charter of your work team: _____ _____
4. Location of your class/team: _____.

Questions 5 to 10 that follow ask for your judgment or perception on how similar or aligned your understanding of and/or commitment to specific work team elements (purpose, objectives, and strategies) are to those of other members on your work team.

Purpose

Questions 5 to 6: Team's purpose refers to your work team's overall goal for the future of the work team during next six weeks. Consider this as your intent or focus that collectively provided the work team a future goal for the team's activities and affected the team's decision making and performance.

5. How similar is your understanding of your work team's **purpose** to that of the other members on your work team? (Circle correct rating.)



Your Understanding of Work Team's Purpose	Not Similar at all	Somewhat Similar	Very Similar	Extremely Similar
	1	2	3	4

6. How similar is your commitment to your work team's **purpose** to that of the other members on your work team? (Circle correct rating.)

Your Commitment to Work Team's Purpose	Not Similar at all	Somewhat Similar	Very Similar	Extremely Similar
	1	2	3	4

Objectives

Questions 7 to 8: Team's objectives are the specific work team performance targets or shorter-term targets your work team was formed for and is working to accomplish.

7. How similar is your understanding of your work team's **objectives** to that of the other members on your work team? (Circle correct rating.)

Your Understanding of Team's Objectives	Not Similar at all	Somewhat Similar	Very Similar	Extremely Similar
	1	2	3	4

8. How similar is your commitment to your work team's **objectives** to that of the other members on your work team? (Circle correct rating.)

Your Commitment to Team's Objectives	Not Similar at all	Somewhat Similar	Very Similar	Extremely Similar
	1	2	3	4

Strategies

Questions 9 to 10: Team's strategies are work team procedures, plans, approach, and methods used to achieve the overall work team's purpose and objectives.

9. How similar is your understanding of your work team's **strategies** to that of the other members on your work team? (Circle correct rating.)

Your Understanding of Team's Strategies	Not Similar at all	Somewhat Similar	Very Similar	Extremely Similar
	1	2	3	4

10. How similar is your commitment to your work team's **strategies** to that of the other members on your work team? (Circle correct rating.)



Your Commitment to Team's Strategies	Not Similar at all	Somewhat Similar	Very Similar	Extremely Similar
	1	2	3	4

TEAM PERFORMANCE

Questions 11-13: Team *performance* relates directly to your team's accomplishment of the team's purpose (evaluated in questions 5-6) and objectives (evaluated in questions 7-8) using the team strategies (evaluated in questions 9-10).

11. Please indicate how you rate your work team's overall **performance** in terms of accomplishing your work team's purpose. (Circle one rating number that represents the success of team accomplishments in relation to your team purpose.)

Poor Below Ave Average Good Excellent
 1 2 3 4 5

12. Please indicate how you rate your work team's overall **performance** in terms of accomplishing your work team's objectives. (Circle one rating number that represents the success of team accomplishments in relation to your team objectives.)

Poor Below Ave Average Good Excellent
 1 2 3 4 5

13. Please indicate how you rate your work team's overall **performance** in terms of using your work team's strategies. (Circle one rating number that represents the success of team accomplishments in relation to using your team strategies.)

Poor Below Ave Average Good Excellent
 1 2 3 4 5

Personal Information

(This information will be held in strictest confidence. Please fill in the blanks below.)

14. In the following questions please provide some **personal information** about yourself:

a. **Total years work experience:** _____ years (Fill in the blank)

b. **Gender:** Male Female (Circle correct answer)



c. **Your age:** _____ (Fill in the blank)

d. **Current work status:**

1. If active duty military answer below: (Circle answer or check in box)

In what Service were you on active duty on January 2, 2006?

Army

Navy

Marine Corps

Air Force

2. If government civilian answer below: (Circle answer or check in box)

For which Department of Defense (DoD) component did you work on January 2, 2006?

Army

Navy

Marine Corps

Air Force

DoD Agency or Activity

3. If civilian contractor answer below: (Fill in blank)

What company do you work for? _____

f. Work/functional background that you've worked more than 50% of your total career time. (Check one most correct)

_____ Engineering

_____ Logistics

_____ Sales

_____ Marketing

_____ Quality Assurance

_____ Program Management

_____ Operations

_____ Contracting

_____ Procurement

_____ Provisioning/Supply

_____ Financial Management

_____ Information Technology

_____ Software Management

_____ Other (Write in Work Background greater than 50%)



g. Highest educational level completed: (Circle most correct choice)

1	Some High School	6	Some Post-Graduate Courses
2	High School Graduate	7	Masters Degree
3	Some College (1-2 yrs)	8	Some Post-Masters Courses
4	Some College (3-4 yrs)	9	PhD/Doctorate Degree
5	Bachelors, College Graduate	10	Other _____

Thank you very much for your help with this research project!

Comments or Recommendations:

Appendix B. Overall Test Results

1. Correlation Results of Overall Strategic Intent and Overall Team-assessed Performance—(RQ 1)

Correlations

		a	TeamPerf
a	Pearson Correlation	1	.731**
	Sig. (2-tailed)		.000
	N	57	57
TeamPerf	Pearson Correlation	.731**	1
	Sig. (2-tailed)	.000	
	N	57	57

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

2. Correlation Results of Strategic Intent Elements (Q 5-10) to Work Team-assessed Performance (Q 11-13)—(RQ 2a-b, 3a-b & 4a-b):



Descriptive Statistics

	Mean	Std. Deviation	N
Q5TUP	3.2120	.33203	57
Q6TCP	3.2104	.32512	57
Q7TUO	3.2141	.32723	57
Q8TCO	3.1840	.37275	57
Q9TUS	3.0389	.34556	57
Q10TCS	3.1209	.36104	57
Q11PP	4.3788	.45923	57
Q12PO	4.3041	.47522	57
Q13PS	4.1885	.47659	57

Correlations

	Q5TUP	Q6TCP	Q7TUO	Q8TCO	Q9TUS	Q10TCS	Q11PP	Q12PO	Q13PS
Q5TUF Pearson Corre	1	.652*	.704*	.675*	.564*	.525*	.513*	.452*	.464*
Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000	.000
N	57	57	57	57	57	57	57	57	57
Q6TCF Pearson Corre	.652*	1	.649*	.860*	.587*	.756*	.594*	.562*	.589*
Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000	.000
N	57	57	57	57	57	57	57	57	57
Q7TUC Pearson Corre	.704*	.649*	1	.786*	.699*	.718*	.663*	.643*	.608*
Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000	.000
N	57	57	57	57	57	57	57	57	57
Q8TCC Pearson Corre	.675*	.860*	.786*	1	.622*	.803*	.677*	.658*	.585*
Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000	.000
N	57	57	57	57	57	57	57	57	57
Q9TUS Pearson Corre	.564*	.587*	.699*	.622*	1	.747*	.635*	.677*	.625*
Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000	.000
N	57	57	57	57	57	57	57	57	57
Q10TC Pearson Corre	.525*	.756*	.718*	.803*	.747*	1	.655*	.648*	.640*
Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000	.000
N	57	57	57	57	57	57	57	57	57
Q11PP Pearson Corre	.513*	.594*	.663*	.677*	.635*	.655*	1	.928*	.877*
Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000	.000
N	57	57	57	57	57	57	57	57	57
Q12PC Pearson Corre	.452*	.562*	.643*	.658*	.677*	.648*	.928*	1	.864*
Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000		.000
N	57	57	57	57	57	57	57	57	57
Q13PS Pearson Corre	.464*	.589*	.608*	.585*	.625*	.640*	.877*	.864*	1
Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	
N	57	57	57	57	57	57	57	57	57

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



3. Correlation Results of Overall Strategic Intent and Overall Instructor-assessed Performance—(RQ 5):

Correlations

		a	Q14InstrPerf
a	Pearson Correlation	1	.463**
	Sig. (2-tailed)		.000
	N	57	57
Q14InstrPerf	Pearson Correlation	.463**	1
	Sig. (2-tailed)	.000	
	N	57	57

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

4. Correlation Results of Strategic Intent Elements (Q5-10) to Instructor Assessed Performance—(RQ 6a-f):

Correlations

		Q5TUP	Q6TCP	Q7TUO	Q8TCO	Q9TUS	Q10TCS	Q14InstrPerf
Q5TUP	Pearson Correlation	1	.652**	.704**	.675**	.564**	.525**	.349**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.008
	N	57	57	57	57	57	57	57
Q6TCP	Pearson Correlation	.652**	1	.649**	.860**	.587**	.756**	.352**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.007
	N	57	57	57	57	57	57	57
Q7TUO	Pearson Correlation	.704**	.649**	1	.786**	.699**	.718**	.466**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000
	N	57	57	57	57	57	57	57
Q8TCO	Pearson Correlation	.675**	.860**	.786**	1	.622**	.803**	.405**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.002
	N	57	57	57	57	57	57	57
Q9TUS	Pearson Correlation	.564**	.587**	.699**	.622**	1	.747**	.330*
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.012
	N	57	57	57	57	57	57	57
Q10TCS	Pearson Correlation	.525**	.756**	.718**	.803**	.747**	1	.486**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000
	N	57	57	57	57	57	57	57
Q14InstrPerf	Pearson Correlation	.349**	.352**	.466**	.405**	.330*	.486**	1
	Sig. (2-tailed)	.008	.007	.000	.002	.012	.000	
	N	57	57	57	57	57	57	57

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

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



5. Correlation Results of Overall Team-assessed Performance and Overall Instructor Assessed Performance—(RQ 7):

Correlations

		TeamPerf	Q14InstrPerf
TeamPerf	Pearson Correlation	1	.630**
	Sig. (2-tailed)		.000
	N	57	57
Q14InstrPerf	Pearson Correlation	.630**	1
	Sig. (2-tailed)	.000	
	N	57	57

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



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- Contractors in 21st Century Combat Zone
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- Commodity Sourcing Strategies
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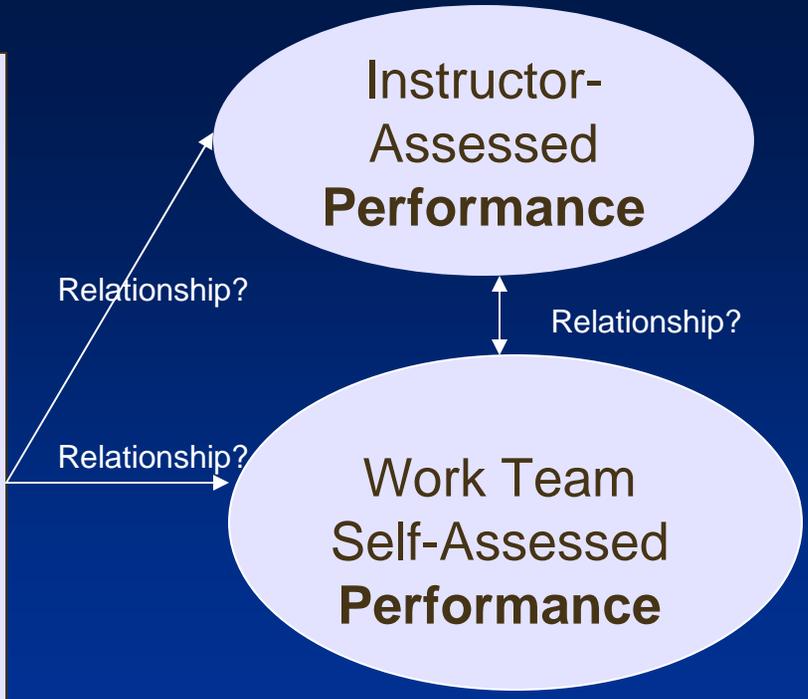
The Relationships Between Work Team Strategic Intent and Work Team Performance

**Sponsored by Defense Acquisition University
16 May 2006**



Background

- Work Teams:
 - Key element of current business and DoD environment.
 - Need to understand how to manage & become more effective & high performing.
 - Need to understand use as strategic tool to improve capability of workforce & implementation of corporate strategies.
- Little to no empirical data on these subjects
- Can team performance be changed by developing more aligned or focused team members?
 - What is the effect of strategic elements of team purpose, objectives, and strategies on team performance?



Key Relationships and Research Variables

Sample Population

- DoD/DAU students attending in residence six-week PMT 352B Executive Program Management course
 - Used student work teams to enhance learning
- Member of student team in 12 PMT 352B courses
 - Six-week course (220 hrs together working on same team)
 - 57 teams
- Sample from all 5 DAU campuses—327 sampled students
 - Adult students (80% male)
 - Average Team Work Experience: 19.2 yrs
 - Average Team Age: 42.3 yrs
 - Average Team Education Level: Btw some postgrad and masters
 - Mix across career work status
 - DoD active duty service members from all services (50%)
 - DoD civil servant career civilians all services (46%)
 - Some defense contractors (4%)
 - Choice of 15 possible acquisition career fields
 - Primarily Program Management (50%)
 - Next Engineering(16%)

Data Collection/Analyses

- Data collected from each team member
 - Identified on survey which team they are on
- Scores calculated for overall average team Strategic Intent and performance on Team Survey (100% return rate)
- Scores calculated for instructors' overall average score for team performance on Instructor Survey—32 surveys





Relationships:
 Overall $r = .463$
 Questions .330 to .486

Relationships:
 Overall $r = .731$
 Questions .513 to .658

Instructor-Assessed Performance

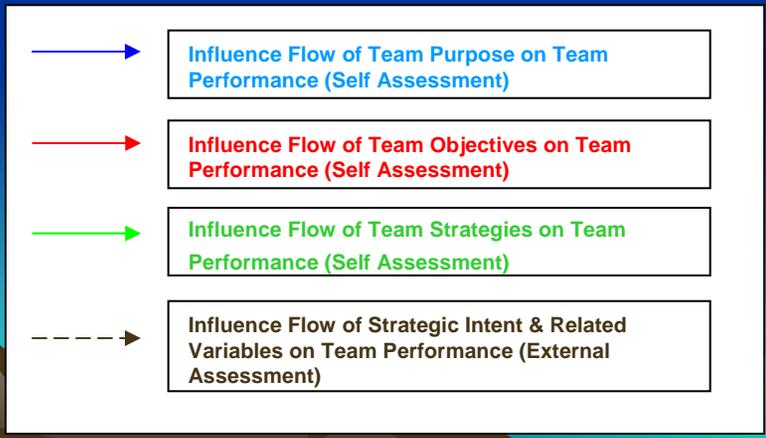
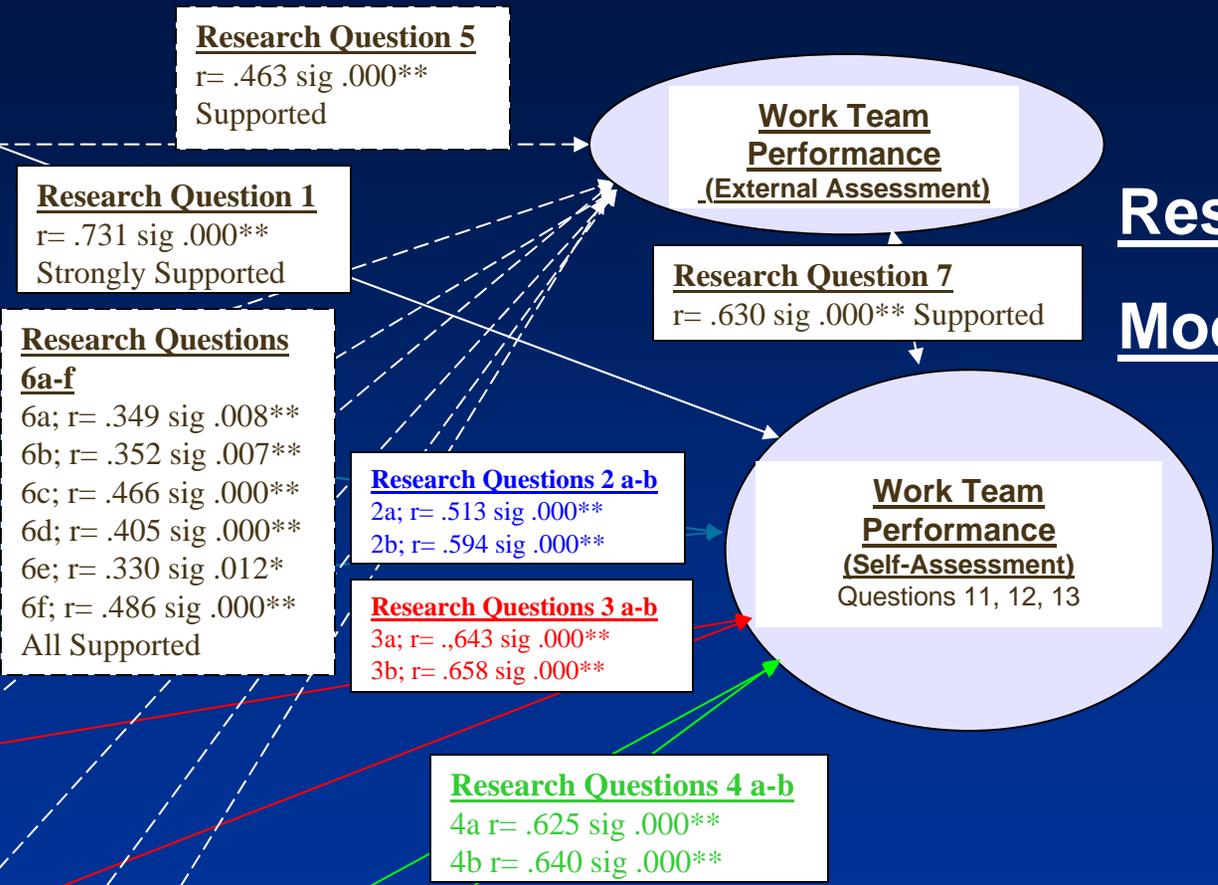
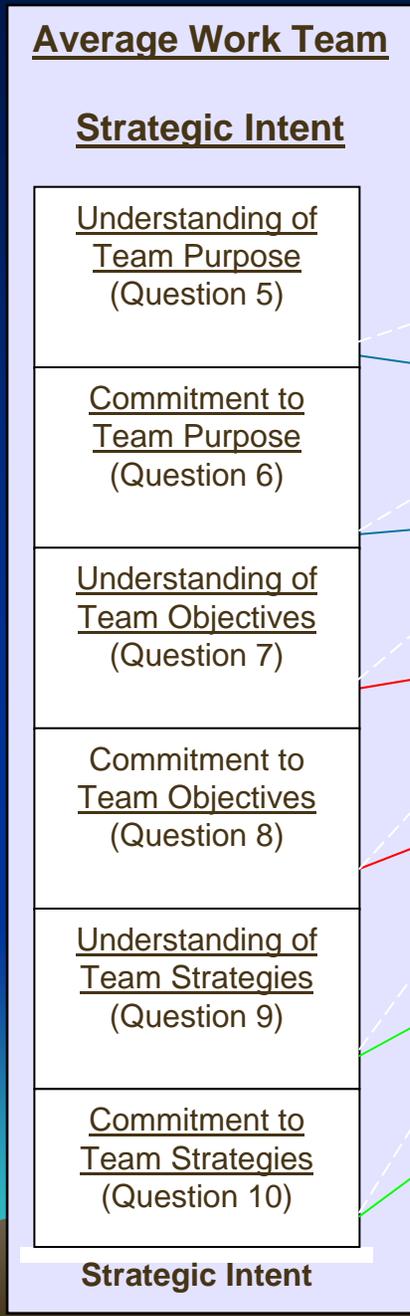
Relationship $r = .630$

Work Team Self-Assessed Performance

Results:

Key Relationships and Research Variables

Research Model



Findings—Confirmed all Hypotheses

- Strong ($r \geq .7$) relationship between overall team Strategic Intent & overall team-assessed team performance.
- Moderately ($r \geq .5$ & $\leq .7$) strong relationships between the 6 elements of team Strategic Intent & team-assessed team performance related to accomplishing the respective strategic element.
- Modestly ($r \geq .3$ & $\leq .5$) strong relationship between overall team Strategic Intent & instructor-assessed team performance.
- Modestly ($r \geq .3$ & $\leq .5$) strong relationships between the 6 elements of team Strategic Intent and instructor-assessed team performance.
- Moderately ($r \geq .5$ & $\leq .7$) strong relationship between overall team-assessed team performance & instructor-assessed team performance.

Additional Findings

There is statistically significant direct relationship between team educational level and

1. Instructor-assessed performance ($\rho=.457$, $p=.000^{**}$).

There are indications (not statistically significant) that there is a direct relationship between team educational level and

1. Overall team Strategic Intent ($\rho=.235$, $p=.079$), and
2. Team-assessed performance ($\rho=.192$, $p=.152$).

Additional Findings (con't)

There are indications (not statistically significant) that there is a negative relationship between team age and :

1. Overall team Strategic Intent ($r = -.066$, $p = .627$),
2. Team-assessed team performance ($r = -.127$, $p = .348$),
and
3. Instructor-assessed team performance ($r = -.117$,
 $p = .386$).

There appears to be an indication (not statistically significant) that there is a negative relationship between team work experience and:

1. Overall team Strategic Intent ($r = -.176$, $p = .191$),
2. Team-assessed team performance ($r = -.089$, $p = .509$),
and
3. Instructor-assessed team performance ($r = -.217$, $p = .105$)

Recommendations

- Use research survey to measure overall team Strategic Intent in any environment.
- Use Strategic Intent results to enhance student performance/learning.
- Use Strategic Intent development exercise to enhance team performance in business.
- Apply research results to business environment to enhance overall work team performance.
- Stress that teams are useful in enhancing learning and business performance.



Recommendations (con't)

- Use teams to help deploy strategic thinking throughout enterprise.
 - Apply results to larger groups than teams like divisions, directorates, entire organization, etc.
 - Stress use of strategic intent in business/education to help enhance overall performance.
 - Use others to assess team performance (external assessment).
- 

Contributions/Impact

- Better understanding of effects of strategic intent on team performance.
- Better use of work teams in the DAU classroom (better learning),
- Better understanding of what affects work teams' performance in program offices/businesses, and
- Better application across education and more effective use in DoD and business to create more high performing work teams.

Summary

- Team and Instructor Survey
 - Primary data collection methods for research.
 - Conducted in 12 DAU PMT 352B courses employing student work teams.
- Data
 - 32 Instructors
 - 57 work teams
 - 327 Team Members



Summary (con't)

- Statistical Analyses on Research Questions/Hypotheses
 - Pearson's r Correlation Coefficient statistical analyses results
 - All 15 research hypotheses supported (Range .330 to .731)
 - Team Strategic Intent related to team-assessed performance & instructor-assessed performance.
 - Team-assessed performance & instructor-assessed performance related.
- Additional Correlation Findings
 - Statistically significant direct relationship between team educational level and instructor-assessed performance.
 - Indication there is a direct relationship between team educational level and overall team Strategic Intent and team-assessed performance.

Conclusions

- Supported all research objectives:
 - Determined that work team Strategic Intent (purpose, objectives, and strategies) was related to team performance (self and instructor assessed).
 - Helped fill the void in lack of empirical studies on how Strategic Intent affects work team performance.
 - Benefit to business and education (DAU).
 - Helped to identify use of teams as effective means to implement overall strategic intent.



QUESTIONS/CONCERNS?

