



THE EFFECT OF VISION AND ROLE CLARITY ON TEAM PERFORMANCE

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ABSTRACT

A strong vision and role definition can provide direction to a team and can positively impact its ability to succeed. However, although many studies conclude that vision and role clarity are important at the organizational level, the impacts of vision and role clarity on innovation/teams have received far less attention. The purpose of this research is to discuss vision components and Role Clarity, and explore their impacts on team performance. After studying the vision on a series of 9 innovation teams at three companies (Apple, IBM, and HP), we empirically tested the impact of the two components of vision (Vision Clarity, and Vision Support) and Role Clarity on overall team performance. Data were collected from 75 team members. We found that Vision Clarity has a positive effect on team performance. We also found that Vision Support and Role Clarity are not significantly related to team performance.

JEL Classification
D20,C92,O30

1.INTRODUCTION

In order to improve effectiveness many companies have changed their structures from hierarchical organizational units to decentralized work teams (Mannix and Neale, 2005). At the same time, the process of team building has become more complex and requires more sophisticated management skills (Revilla and Cury, 2009). Incomplete or ambiguous specification of team vision and ambiguous role in collaborative team work is important problems among team members (see Stewart, Fulmer, Barrick, and Hollenbeck, 2005; Esper, Fugate, and Rapert, 2008; Shalley and Gilson, 2004; Koufteros, Vonderembse, and Doll, 2002; Lynn and Akgun, 2001; Rose, Ahuja, and Jones, 2006; Revilla and Rodriguez, 2011). For the purposes of our study, teams are defined as “a distinguishable set of two or more people who interact, dynamically, interdependently, and adaptively toward a common and valued goal/objective/mission, who have each been assigned specific roles or functions to perform, and who have a limited life-span of membership” (Rouse, Cannon-Bowers, and Salas, 1992).

The teams may be composed of individuals closely tied within organizational and functional boundaries (e.g., marketing), or teams may be cross-functional (e.g., marketing, accounting, and production), where individuals originate from a variety of disciplines and

responsibilities (Hansen, 1994). Because individuals from various functional areas often have different ideas about the project, without effective team vision and role definition these individuals generally pull the project in different directions and thereby adversely affect the performance of team (Stewart et al., 2005; Esper et al., 2008; Revilla and Rodriguez, 2011). In teams with a strong shared vision and role definition, members have a common sense of purpose and agreed-upon goals, and are more likely to feel motivated, empowered, and committed to their teams' collective future (Hackman, 1992; Kirkman and Rosen, 1999; Zhang, Waldman, and Wang, 2012).

Vision is a statement of the desired future state of something (Rice, O'Conner, Peters, and Morone, 1998). Team vision indicates the extent to which the team has a clear, shared, attainable vision or set of objectives (Gibbon et al., 2002). When the team has a vision, objectives can be set and the effectiveness of these objectives determined. Shalley and Gilson (2004) asserted that a communicative vision can maximize the creativity of individuals by affecting team and organizational conditions that foster innovation. By enabling the enactment of a shared team vision, concurrent development facilitates downstream coordination, enhances product integrity, and improves product development success (Koufteros et al., 2002). Thus, if the team is to be effective, it will need to be driven forward by either an implicit or explicit shared vision, which has been developed from within the group, is valued by the group and deemed to be attainable and realistic. Khurana and Rosenthal (1998) identified that the common team problem areas in the front end include: (1) unclear project strategy and projects not prioritized, (2) unclear tradeoff of project objectives and unsuitable assignment of people to projects and, (3) unclear interface of subsystems and the lack of team members' direction.

In teams, decisions are frequently made by team members. But team members may have a different vision or interpretation of the same event, may be pursuing different priorities or goals, and hence may be in conflict with one another regarding data acquisition, interpretation and dissemination (Zhang and Doll, 2001). Thus, in order to minimize the adverse effects of the various diversities in a team and to promote better performance, it is important to develop a common view among team members (Revilla and Rodriguez, 2011). Ray and Bronstein (1995) stated that in successful teams the individual members are not controlled, managed, or supervised. Instead, team members are led by a shared vision of the goals and purpose of the organization. In teams with a strong shared vision, members have a common sense of purpose and agreed-upon goals, and are more likely to feel motivated, empowered, and committed to their teams' collective future (Hackman, 1992; Kirkman and Rosen, 1999; Zhang et al., 2012).

Based on the previous literature, our study identifies two components in the concept of vision. It should be vision clarity, and vision support. These components together allow the development of a team vision that will guide the efforts of the team in a common direction, despite the differences among team members. Other scholars have also emphasized similar vision components. Hamel and Prahalad (1989), for example, assert that an effective organizational vision has three components. It must be (a) clear, (b) supported by others in the organization, and (c) stable. Niemes (1996), for example,

asserts that clarity is critical for teams. Vaughan (1997) and McAlister (1998) emphasize vision clarity and agreement or support is important, and Giordan (1995) stresses clarity and company support. According to Lynn and Akgun (2001), vision stability at the team level may not be critical because there are many paths for achieving the designated ends, and these may be unknown or unknowable at the outset of projects where conditions can be quite uncertain. Therefore it is unlikely that stability is a critical phenomenon at this even more uncertain stage of the vision development process. Thus, stability was not considered to be a relevant dimension in our study.

The first component, vision clarity (VC), refers to having a well-articulated, easy-to-understand target- a very specific goal that provides direction to others in the organization. For Canon, the corporate vision was to “Beat Xerox;” for Honda, it was to become second to Ford in automotive innovation (Hamel and Prahalad, 1989); for United States of America’s space program it was to “put a man on the moon and return him safely to the earth by the end the of the decade;” and for Dennis Connor and his America’s Cup Team, the vision was to “bring it back” (Niemes, 1996). These visions create a clear image of what the organization is trying to do. Vision clarity is the first step in creating an effective vision. It provides the goal which others can shoot. Without a clear vision, it is unlikely that others will support it because they don’t know what they are supporting, nor is the vision likely to be stable and endure over time.

The second vision component, vision support (VS), implies securing the commitment from people throughout an organization for what the company is trying to do. It indicates that people are willing to pitch in to help accomplish the vision – to do whatever it takes to achieve the goal (Lynn and Akgun, 2001). Hanson and Lubin (1988) suggested that for team building to be successful is necessary that all members must be committed to the effort and willing to take responsibility. The team, others, on and off the team, will continually question its direction and will try to change the vision as the project progress. The net results will be delays, confusion and diminished effectiveness.

Although the concept of vision is receiving increased attention at the organizational level, there is a great deal we still do not know regarding vision at the team level. As Brown and Eisenhardt (1995) stated, although this aspect of the team is considered critical, our understanding of exactly what team vision is, and its link with team performance is very weak. Crawford and Di Benedetto (2000) also note that there is surprisingly little research in vision in teams. For their project-level research, Lynn and Akgun (2001) tested three project vision components - clarity, support, and stability— for impact on team performance of radical innovation and incremental innovation. However, we do not know if their findings are applicable for team performance that is measured by objective/quantitative variables. Zhang and Doll (2001) stated that for success new product development teams, the team vision factor is the most critical one needs to be explored in the future research.

A clear and supported vision is important, but if the roles of team members are not clear, it leads to conflict in the team (Gladstein, 1984), and it can confuse and frustrate team

members. Role clarity is an important element of overall team effectiveness (Feistritzer and Jones, 2014). Research on roles in organizations has primarily focused on three role perceptions: role clarity, role conflict, and role ambiguity (Esper et al., 2008). Role ambiguity refers to a lack of clear information about a particular role, whereas role conflict has been defined as incongruence in role expectations between a role incumbent and role senders (Kahn, Wolfe, Quinn, Snoek, and Rosenthal, 1964). Role clarity has simply been referred to as a lack of role ambiguity (Rizzo, House, and Lirtzman, 1970), meaning that an individual team member has a clear understanding of his or her task and has clear information associated with a particular role in the team (Bray and Brawley, 2002). As with vision, within the team, each team member should have a clear understanding of his/her role and how that role interacts with other team roles. The understanding of each other's roles will affect the attitudes of team members towards the team. This increases cohesiveness and collective orientation, promotes autonomy, ownership, job satisfaction, self-accountability and commitment towards the project, organization and team success (Braun and Avital, 2007).

Role clarity has been found to have a significant positive effect on employee job satisfaction (e.g., Teas, 1980), organizational commitment, reduced job-related tension, lower burnout, lower turnover intentions, satisfaction with coworkers (e.g., Agnihotri, Rapp, Kothandaraman, and Singh, 2012; Bauer, Bodner, Erdogan, Truxillo, and Tucker, 2007; Foote, Seipel, Johnson, and Duffy, 2005), and has been found to be a key factor in maximizing employee performance (e.g., Jackson and Schuler, 1985; Shoemaker, 2003). However, the study of role clarity and role conflict thus far has been limited to work roles (e.g., managers, supervisors) within organizations and has not yet examined roles within small interdependent groups (Beauchamp and Bray, 2001; O'Neill, Allen, and Hastings, 2013). Because the individual-level consequences of role clarity are primarily functional for the organization as a whole, it is also important to explore the impact of role clarity on team performance within small interdependent teams. Klein et al. (2009), for example, state that the conceptual role clarity may not have come soon enough for many investigators who had previously sought to assess the efficacy of team building. Although many important team structure variables have been studied (e.g., conflict management, diversity, etc.; Brunetto, Farr-Wharton and Shacklock, 2011), there is a great deal we still do not know regarding role clarity at the team level. Deeter-Schmelz (1997) suggested that one key structural variable that affects team dynamics, should be investigated in future studies is role clarity. Similarly, while there is the considerable and valuable body of work relating the impact of role stress (i.e., role ambiguity, role conflict, and role overload) on team performance outcomes (e.g., Drach-Zahavy and Freund, 2007; Pearsall, Ellis, and Stein, 2009; Savelsbergh, Gevers, van der Heijden, and Poell, 2012), we could not find studies related with the direct impact of role clarity on team performance. Many scholars suggested further investigating the effect of role clarity on team performance (e.g., Puck and Pregernig, 2014; Jehn and Bendersky, 2003; Deeter-Schmelz, 1997; Beauchamp and Bray, 2001).

In light of the conflicting literature on vision and role clarity at the organizational level and the limited empirical research on vision and role clarity at the team level, the general

objective of this study, as shown in Figure 1, was to explore the impact of vision clarity, vision support, and role clarity on team performance. Consistent with our general objective, firstly, we conducted investigations on 9 sequential innovation teams in the computer industry within three companies – Apple, HP, and IBM- on team vision. Products included the Apple II, Ile, III, and Lisa; Hp125, 150; IBM DataMaster, PC, and PSjr. Secondly, after studying on a series of 9 innovation teams at three companies, we empirically tested the impact of vision clarity, vision support and role clarity on overall team performance.

Based on the theory, the structural model was developed to test causal relationships between vision clarity, vision support, and role clarity and team performance. Figure 1 illustrates the proposed model and the causal relationships to test all hypotheses simultaneously in a model.

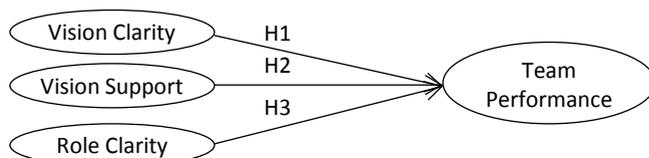


Figure 1. Proposed Model

3.THEORY and HYPOTHESES

3.1.Vision Clarity (VC)

The first component, VC, refers to the extent of communication, understanding, and acceptance of a set of project goals that guide development efforts (Hong, Doll, Nahm, and Li, 2004). The team goals must be well articulated and clearly understood and shared among team members. Zhang and Doll (2001) stated that in order to develop new products successfully, the project team has to deal with the uncertainty from customer, technology and competitors. Although the uncertainty is beyond management's control, at least the teams can focus on clear team vision building and knowledge sharing (Zhang and Doll, 2001). Lynn, Abel, Valentine, and Wright (1999) found that one of the two factors considered most critical of the new product development teams success was a clear team vision. The individual learning literature argues that if individuals have a clear goal, they learn their tasks faster (Covey, 1997). Lucas (1998), for example, states that a clearly defined vision helps individuals arrange their various priorities and keeps them focused on the task, enabling the individual to learn faster. In other words, having a clear team vision should help team members focus better on market, technology, and environmental changes that can be obstacles for rapid team learning and success. Eisenhardt (1989) stated that teams having a clear vision can reduce cycle time. Similarly, Kessler and Chakrabarti (1996) argued that teams without a clear vision (having ambiguous project concepts) promote suspicion and conflict on a team regarding what should be produced, which can result in time-consuming, readjustments, and debates.

In our initial study of 9 innovation teams, all the extraordinarily successful innovations had a clear vision – the team members knew what the team was trying to do- the features, target market, price point were clear. Though not everything was spelled out, team members knew what they were trying to do –what their mission was. As an example, the IBM PC team had a crystal clear vision of its goal. As Larry Rojas, the Director of Planning for the IBM PC team recalls: “We were trying to out Apple Apple.” The PC was to be a personal computer that would be versatile enough to be used at home, at school as well as by small businesses. The PC’s vision was established by a task force, many of whom were recruited from the DataMaster (the precursor to the PC). The vision or blueprint was a plan of when the PC should be launched, what features and benefits it should provide, who the target market would be, and where it would be sold. The plan was established, understood, and agreed to by Frank Cary, IBM’s CEO, Bill Lowe the initial project leader, and the other members of the PC task force team. The team’s objective, as Jan Winston, one of the early PC task force members describes, was “to execute the task – force plan.” The result of this process was that the PC team had a very clear vision and a sense of purpose.

In contrast to the extraordinarily successful new product teams, the failed Apple Lisa project lacked a clear vision. The vision on the Lisa was ambiguous and vague. The overarching goal of Lisa was to become an office productivity tool, but an office productivity tool can be anything from a fax machine to a ruler. As a result, team members did not agree on what the vision of Lisa was supposed to be nor what it was supposed to do. Over time, the vision changed; the features and functionality of the Lisa grew, and with it, so did the cost. What began as a \$2,000, 8-bit computer, became a \$9,995, 16-bit computer. Unfortunately, the market was not ready for a \$10,000 personal computer; sales for the first year fell woefully below forecast. The first year Lisa forecast called for 1983 sales to reach 50,000 units, but only 11,000 units were actually sold. Repeated attempts to revive to Lisa failed, and in April 1985, at an Apple Board meeting, the Lisa was cancelled and dropped entirely. Consistent with literature in VC and our study of 9 innovations, we hypothesize:

Hypothesis 1 (H1): Vision Clarity is positively related to team performance.

3.2.Vision Support (VS)

A clear vision is one important component of an effective vision but, the vision must also be shared and supported by others on the team. VS allows members in the team to understand how they might work together or align themselves to play a role in realizing that vision. Lewis (2001) explains, if everyone does not agree on the vision, each person will try to achieve the outcome he or she imagines, often with disastrous results. Teams with an innovative team climate are characterized by a high cohesion between team members, high levels of support and challenge, good sharing and implementing of new ideas, and clarity of tasks and objectives (Anderson and West, 1998; Bain, Mann, and Pirola-Merlo, 2001). Briner, Geddes, and Hastings (1996) stated that the most significant success factor for project teams is that they have a common and shared idea of what

difference they are trying to make as a result of the project. Rose et al. (2006), for example, stated that promoting a unified team vision would seem to be important; professionals need to work for generating an atmosphere of trust between team members and then developing problem-solving methods where all members of the team are encouraged to contribute. Similarly, Katzenbach and Smith (1992), identify four team basics that need to be present for teams to perform well. The team must: (1) Have a common purpose, (2) establish goals for individual and collective accountability, (3) agree upon a common objective for getting the work done, and (4) have complementary skills.

In our study of 9 sequential innovations, two examples of projects that secured good support or buy-in for the vision were the successful IBM PC and Apple IIe. For the IBM PC, by having Cary as the PC's executive sponsor, by default, the vision had top management support. And by having virtually all the people who had formulated the initial vision from the task force, being in the actual PC team, the vision was supported by the team members as well. On the Apple IIe, team members similarly bought the vision of the project. Mike Connor, who was the project leader succeeding from Taylor Pohlman, describes the vision on the Apple IIe: "There was a clear sense of mission that everyone really bought." Barry Yarkoni, a marketing manager on the Apple IIe, concurs, "There was absolute agreement by everybody on the vision of the IIe."

In contrast, the unsuccessful projects, such as the Apple III, HP's 125 and 150, and the IBM PCjr exhibited a different pattern. On the Apple III, individual team members had vision about what the Apple III should be and who would be the target market; unfortunately, these visions varied for different team members in different functional disciplines. The marketing people had one vision and the engineering people had another. As Yarkoni, who was the early marketing manager for the Apple III explains:

The engineering people had a certain vision of what the product should be which was basically a souped up Apple II. The marketing people were saying, 'oh my gosh we've got a cash cow in the Apple II that's generating pot fulls of money. The last thing we want to do is to start cannibalizing it for no good reason. We want a product that will take us into some new markets and give us some potential new customers that are not being serviced that are not buying Apple II's and we want the Apple III to be a professional machine. So meanwhile the engineers had loaded it up with goodies in terms of graphics and sound and we much preferred goodies that made it oriented toward businesses professionals. So, right off the bat we had a major war going on between where we needed the product to go from a business point of view and where engineering wanted the product to go because it was fun.

The lack of vision support was one of the primary reasons underlying the fact that it took Hewlett Packard over 12 years to succeed in the personal computer marketplace. HP experienced a series of setbacks in its efforts to compete in the PC business. The main source of the trouble was that engineers in HP had a mindset to be innovative- "to make a substantial technical contribution" despite a vision that was established by HP's

consultants that indicated HP's PC must be fully IBM-compatible. The idea of being an IBM clone maker was repugnant to most engineers in HP and they refused to accept it. Larry Kelly, the HP 125 and 150 R&D Lab Manager explains:

The test [at HP] always used to be, when you had an idea or were working on a project – what's the contribution? What have you done that nobody's done before? That [mentality] works fine for instruments but that's in direct contrast with being compatible. So you've got a company that's 35 or 40 years old at the time with \$1 or \$2 billion in revenue. And you've got all these engineers thinking. 'You can't wear your boots unless you know [that] you've done something nobody else's done - you can't come to work.' Overcoming that mentality was very hard. It took them [HP engineers up to its senior management] four or five years to realize that it [an HP PC] had to be compatible [with IBM] first and then maybe you could innovate after that.

As a result, many of the HP engineers did not buy-into the vision of designing and building a clone of the IBM PC. In a somewhat similar example, the initial vision for the IBM PCjr. was a powerful, versatile home computer that could compete with the PC at the low-end for home/personal use. But senior management did not agree with the team's vision and as a result, a conflict arose. Bill Sydnes, the IBM PCjr. System Manager (the overall project manager), recalls his team's versus management's position:

The IBM PCjr. was originally intended to have a large number of peripherals on it that would have allowed it to compete at the low end of the PC product line. It would have obliterated the low end of the PC product line. IBM's position was, we're not going to allow you to do that.

Behind the scene, another dynamic was unfolding. IBM was having second thoughts about selling a home/game computer. Company executives were concerned about being perceived as a home computer company. After all, they were International "Business" Machines; not International "Home" Machines. As David O'Connor, who took over from Sydnes as the PSjr.'s System Manager, recalls:

There were some guys at the top of the corporation who really believed that they didn't want the IBM logo in the retail or consumer distribution channel at the time. [They said] 'IBM is not a consumer company. They are a business company. They sell to professionals and businesses and large corporations ... and this home computer stuff is not for us.' The instant there was any problem with the program, it gave those who felt IBM should not be in that market reason to suggest that we delay the program.

What began as a skunk work quickly changed to include a high degree of involvement from top management. Senior management came in and altered the rules. They required that the PCjr. be 1) fully compatible with the PC, 2) de-functionalized so not to cannibalize the low-end of the PC market, and 3) geared to both the home and as well as the business

markets. The result of mid-course changes was that Sydnese left. His leaving created a void that was difficult to fill. His leaving combined with the changes, delayed the project, altered its target market and reduced its technical capabilities. Needless to say, the product failed. Therefore consistent with literature in VS and our study of 9 innovations, we hypothesize:

Hypothesis 2 (H2): Vision support is positively related to team performance.

3.3.Role Clarity (RC)

Role clarity, which is sometimes referred to by the contrasting term, role ambiguity, is considered to have important consequences for the performance and success of teams in business and industry (Rizzo et al, 1970). According to role theory (Rizzo et al. 1970), role clarity refers to “the degree to which required information is provided about how the employee is expected to perform his or her job” (Teas, Wacker, and Hughes, 1979, p. 355). One key of measurable indicators of team structure, as identified by previous research, is the clarity of its goals and members roles (Gladstein, 1984; Deeter-Schmelz, 1997). As Drach-Zahavy and Freund (2007) noted, two types of structuring, mechanistic and organic, are distinguished in terms of how to manage control of teams’ job accomplishment and how to differentiate and coordinate members’ roles within these teams. For example, Richardson (2010, p.86), identifies shared objectives and specified roles as criteria for assessing real teams. Newman and Wright (1999) indicated, teams are “characterized by high task interdependence, high role differentiation, high task differentiation, and distributed expertise” (p. 377). In this context, when forming the team and selecting the members it must be considered what roles the team needs to complete its task (Launonen and Kess, 2002). This coincides with the words of Rogers (2009), “When teams are formed and even after they have existed for a period of time, it is necessary that each team member understand and be reminded... (of) ...their role and how they contribute to the team and the organization’s goals.”

Team members consider a team as a group of people working together on the basis of shared perception, a common purpose, agreed procedures, commitment, cooperation and resolving disagreements openly by discussion. Role clarification of team emphasizes communication among team members, and thus it is likely that an increase in the level and quality of communication between team members will impact their effectiveness (Klein et al., 2009). Similarly, Kiesler (1978) and Gladstein (1984) suggested that as higher levels of role clarity exist within teams, the more likely each member is to communicate openly in team settings. Forsyth (1999) stated that role clarity may have both psychological (e.g., self-efficacy, job satisfaction) and behavioral (e.g., performance) implications not only for role occupants but also for the rest of the team. According to Hartenian et al. (1994), increased role clarity of individual employees leads to better individual job effectiveness. Stewart et al. (2005) suggested that the more each team members understands and performs his or her task role, the more likely the team's goals will be effectively achieved. Gladstein (1984), suggested that team structure, which includes role clarity, has a direct influence on team effectiveness. MacMillan (2001), for example, described six

characteristics of a high performance team: (1) Common purpose, (2) crystal clear roles, (3) accepted leadership, (4) effective processes, (5) solid relationships, and (6) excellent communication.

Team members' roles can be viewed as subsets of the behaviors exhibited within the team processes; they manifest individual level contributions to these team processes (Beersma et al., 2009). Therefore, one way of building high performing team is by identifying individual preferences to approach tasks and interact with others, that is to say, identifying individual team role preferences (Aritzeta, Ayestaran and Swailes, 2005). When roles and objectives are clearly delineated, the individuals' attitudes toward the teamwork are enhanced (Ruiz-Ulloa and Adams, 2004). Furthermore, as Moynihan and Pandey (2007) noted, role clarity has an important motivational effect on job satisfaction, organizational commitment, and job involvement (see Bauer et al., 2007; Foote et al., 2005). Ruiz Ulloa and Adams (2004) discussed several characteristics that critically impact the effectiveness of teams: productive conflict resolution, positive communication, role clarity, accountable interdependence, clearly stated goals, common purpose, and psychological safety. Thus it appears that team members become more effective when they do not lack crucial information regarding their roles. Therefore consistent with literature in team role clarity, we hypothesize:

Hypothesis 3 (H3): Role clarity is positively related to team performance.

4.RESEARCH METHODOLOGY

4.1.Sample and Data Collection

Data were collected from executive masters students in a business program at a university in the Northeast Region of the United States. To avoid common method bias, we designed a research protocol that involved surveying executive masters students enrolled in several sections in a Marketing Strategy course. For this Marketing course, students competed in teams of four to six students in a computer simulated marketplace for six periods or rounds over eight weeks. The computer simulation was specially created and written for this course and is used by several leading business schools such as Insead and Wharton. Students were surveyed after they had completed the simulation – six rounds. Also prior to completing the six “real” rounds, two practice round were played. Their survey-responses were matched to their final results from the simulation, e.g., sales, profits and market share. The outcomes were objective/quantitative measures calculated by the simulation.

We first pilot - tested the survey with ten students from three different Masters of Business programs. After receiving the returned surveys, we corrected several questions in which respondents had difficulty answering or indicated were unclear. These pilot surveys were not used in the final dataset. Once the surveys were refined, we sampled 75 students who were in two sections of Marketing Strategy in an Executive Masters of Business program. We received a 95% response rate. These students were all full-time working

professionals with a mean age of 31.8 and standard deviation of 9.2. They came from locations across the United States – from New Jersey to California.

4.2.Measures

To test our hypotheses, a questionnaire was developed based on previous research from several disciplines including (1) new product development (e.g., Meyer and Pruser, 1993; Millson, Raj, and Wilemon, 1992; Nijssen, Arbouw, and Commandeur, 1995; Chiessa, Coughland, and Voss, 1996), (2) marketing (e.g., Day, 1994; Moorman, 1995), (3) knowledge management (e.g., Davenport and Prussak 1998; Lynn, 1998; Roth and Kleiner, 1998) and (4) psychology (e.g., Larson and LaFasto 1989; Locke, Shaw, Saari, and Latham, 1981; O'Leary-Kelly, Martocchio, and Frink, 1994).

VC was measured with seven items. An example item was: 'Prior to beginning the real rounds (after the practice rounds), the team had a clear vision of the required product features'. (Prior to completing the six "real" rounds, two practice round were played). VS was measured with one item. The item was: 'Overall, team members supported the vision of our company'. RC was measured with three items. An example item was: 'The roles of team members on this project were very clear'. Each construct was measured using multiple items and Likert type 0 to 10 scale (0 = strongly disagree to 10 = strongly agree). The dependent variable (Team Performance) was measured with cumulative profit – and was calculated by the simulation at the end of the game in terms of Dollars (\$). (Our constructs are shown in Appendix).

4.3.Analysis and Results

The partial least squares (PLS) approach (Sosik, Kahai, and Piovoso, 2009; Chin, 1998) was used to path modelling to estimate the measurement and structural parameters in structural equation model (SEM). In the group and team literature, Sosik et al. (2009) have suggested that PLS data analytical technique is a powerful means for organizational research because PLS (a) can test multivariate structural models with a limited sample size, (b) can be applied to develop theory in early stages of research, and (c) can use the bootstrapping technique to determine the 95% confidence intervals of the path coefficients, providing more accurate findings. As we had a relatively small sample size at the team member level (N=75), we followed Sosik et al.'s (2009) suggestion to use the PLS approach. The path model was developed and tested applying the statistical software application, SmartPLS 2.0 (Ringle, Wende and Will, 2005) for measurement validation and testing the structural model. SmartPLS uses a PLS regression technique which employs a component-based approach for estimation. It places minimal restrictions on sample size and residual distributions (Ringle et al., 2005).

4.4.Measurement Validation

Firstly, an exploratory factor analysis was performed to assess the dimensionality of the constructs of VC and RC by using principle component with Varimax Rotation.

Unidimensionality was exhibited in this two constructs as only one factor surfaced in each set of analyses. Additionally before doing any further analysis, the reliability of constructs items were tested. Appendix shows the constructs whose eigenvalues are greater than one, factor loadings, cronbach's alpha for each construct, and variation explained by each item. Alpha coefficients of constructs are greater than 0.75 which indicates good reliability as suggested by Nunnally (1978).

Secondly, to assess the psychometric properties of the measurement instruments, a similar procedure to that of Henseler, Ringle and Sinkovics (2009) and MacKenzie, Podsakoff and Jarvis (2005) was performed, using reflective indicators for all constructs. With respect to constructs, the standardized loadings of indicators on their respective constructs ranged 0.74 to 0.96, which are above the threshold of 0.70 (Chin, 1998) (see the Appendix). Furthermore, each indicator's standardized loading on its respective construct was highly significant ($p < 0.01$). As suggested by Henseler et al. (2009) and MacKenzie et al. (2005), indicators of each construct were highly correlated, reflecting the same underlying construct. The scores of a construct are correlated with all other constructs' indicators in its own block (Chin 1998).

Internal consistency reliability was evaluated by means of composite scale reliability (CR). For all measures, the PLS-based CR ranged from 0.84 to 0.95, which exceed the suggested threshold of 0.70 or above (Chin, 1998; Fornell and Larcker, 1981). Convergent validity was evaluated by inspecting the average variance of extracted (AVE). AVE for each measures was exceeded the 0.50 cutoff value, consistent with recommendation of Fornell and Larcker (1981). In addition, convergent validity was evaluated by inspecting the standardized loadings of the measures on their respective constructs (Chin, 1998), and all measures were found to exhibit standardized loadings that exceed .70. Appendix also shows standardized indicator loadings, t values, CR and AVE values. Next, the discriminant validity of the measures was assessed. As suggested by Fornell and Larcker (1981), the square root of AVE for each construct was greater than the latent factor correlations between pairs of constructs. The means, standard deviations, the square root of AVE for each construct, and the correlation coefficients for all constructs were displayed in Table 1. As shown in Table 1, the largest correlation was between vision clarity and role clarity ($r=0.66$), which is less than the square root of the AVE for vision clarity (0.83) and role clarity (0.94). Moreover, as suggested by Chin (1998) and Kleijnen et al., (2007), the theta matrix (Θ) was inspected, and no item was found to cross-load higher on another construct than it did on its associated construct (Chin, 1998). Consequently, the determination was that all constructs exhibit satisfactory discriminant validity. These findings suggest that VC, VS and RC constructs are reliable, valid.

Table 1. Correlations of Latent Variables

Latent variables	Mean	SD	1	2	3	4
1 Team Performance (\$million) ^a	59.73	35.17	n.a.			
2 Vision Clarity	7.77	1.74	.40**	0.83		
3 Vision Support ^a	8.59	1.74	.27*	.57**	n.a.	
4 Role Clarity	8.30	1.72	.17	.66**	.51**	0.94

Notes: Significance at ** $p < .01$, * $p < .05$ (two-tailed); $N = 75$; the square root of AVE was shown as bold numbers on the diagonals; n.a.: Not applicable; ^aSingle indicator construct.

The check for multicollinearity is needed because it causes parameter estimation problems (Hair, Ringle, and Sarstedt, 2011). To detect multicollinearity, variance inflation factors (VIFs) and tolerances were assessed for each construct component using IBM SPSS 22.0 for Windows. The VIFs of indicators ranged from 1.544 to 2.013; the average was 1.70. Tolerances ranged from 0.497 to 0.648. All VIFs and tolerances were in acceptable threshold levels ($VIF < 3.3$, $tolerance > 0.20$) (Hair et al., 2011). These findings indicated that multicollinearity did not seem to be problematic.

4.5. Hypothesis Testing

SmartPLS 2.0, which allows for explicit estimation of latent variable scores, and the bootstrapping resampling method were used to test the proposed model (Chin, 1998). As suggested by Hair et al., (2011), this procedure entailed generating 5000 subsamples of cases randomly selected, with replacement, from the original data. Path coefficients were then generated for each randomly selected subsample. T-statistics were calculated for all coefficients, based on their stability across the subsamples, indicating which links were statistically significant. Table 2 demonstrates hypotheses, hypothesized links, the standardized path coefficients, t-values, R² value, Q² value and results of all hypotheses. As shown Table 2, It was found that values of Vision Clarity ($\beta = 0.476$, $p < 0.01$) is positively associated with team performance, supporting H1. However, no statistical significant association between vision support ($\beta = 0.096$, $p > 0.05$), role clarity ($\beta = -0.194$, $p > 0.05$) and team performance was found, which indicated no support for H2 and H3.

Table 2. The Results

Hypothesis	Hypothesized links	Path coefficient (β)	t values	Results
H1	Vision Clarity \rightarrow Team Performance	0.476*	3.075	Supported
H2	Vision Support \rightarrow Team Performance	0.096	0.923	Not
H3	Role Clarity \rightarrow Team Performance	-0.194	1.334	Not
R ² = 0.19				
Q ² = 0.13				

Note: * $p < .01$

Findings also indicate that the proposed model explains the 19% of the variance in team performance. In another word, VC, VS, and RC variables together explain the 19% of the variance ($R^2 = 0.19$) in team performance. The R² index of the variables demonstrated a satisfactory level of predictability (Chin, 1998). In addition, Stone-Geisser's Q² were

measured using blindfolding procedures (Henseler et al., 2009). Q2 value ranged above the threshold value of zero ($Q2=0.13$), indicating that the variables have predictive relevance for team performance, thus confirming the overall model's predictive relevance.

5.DISCUSSION

This paper attempted to offer a contribution to the team performance literature by presenting a model for researchers and project managers to understand potential interrelationships among VC, VS, RC and team performance. As a result of our analysis, we found that VC was significantly associated with team performance. This finding is consistent with the scholarship and business press citing the importance of "vision" to success (Lynn and Akgun, 2001; Revilla and Cury, 2009; Revilla and Rodriguez, 2011; Patanakul, Chen, and Lynn, 2012). For example, Revilla and Cury (2009), in their empirical study, have revealed that clarity of project purposes has a positive influence in the new product performance in terms of process outcomes and teamwork. Patanakul et al. (2012), by studying 555 new product development projects, found that among the control variables, VC is the most important predictor of team performance. For their project-level research, Lynn and Akgun (2001) developed scales and definitions for three project vision components - clarity, support, and stability—and tested these for impact on performance of radical innovations. Their findings indicate that project VC is significantly associated with new product development teams' success. Cole, Harris, and Bernerth (2006) explored the relationship of vision and employees' commitment to the change initiative that was addressed in the vision and found that VC was significantly related to increased job satisfaction, reduced role ambiguity, and lowered intent to turn over among employees, even among those who doubted the appropriateness of the changes or felt that the changes were poorly executed. Similarly, Revilla and Rodriguez (2011), studying the team vision on 78 new product development teams, found that in low ambidexterity strategies clarity dimension is significantly associated with teamwork. Similarly, Rice et al. (1998) found that for successful radical innovation, teams should have a clear vision, but be flexible with their project plans.

In this study, we did not find any direct and significant association between VS and Team Performance. This finding is somewhat contradictory to the existing scholarship. For example, Bessant, Caffyn, and Gallagher (2001), by investigating six incremental innovations, found that team VS impacts success for continuous innovation improvements. Zhang et al. (2012), by studying multisource and multimethod data collected at 3 points in time (361 followers in 74 work teams), found that team shared vision is positively associated with individual performance and team effectiveness. Similarly, Yukelson (1997), stated that core components to consider in building a successful team include having a shared vision and unity of purpose, collaborative and synergistic teamwork, individual and mutual accountability, an identity as a team, a positive team culture and cohesive group atmosphere, open and honest communication processes, peer helping and social support, and trust at all levels. However some studies are consistent with our finding. For example, Lynn and Akgün (2001), in the case of project vision support, the link to new product teams' success has been found to depend on where the support comes from (i.e., team

members, team managers, or top management), and found that vision support by team manager is significantly associated with new product success, whereas the support by team members and by top management is not. Reid and Brentani (2010), stated that the findings on VS are equivocal and pointing to need to further investigate the support dimension. Perhaps what is happening here is that teams typically have little knowledge about market and technology, therefore vision agreement or support may vary depending on the team members. Perhaps another way to look at this is team members can voice support for vision, but actions speak louder than words.

In this study, we also did not find any direct and significant association between RC and Team Performance. Findings in the literature on this subject are complicated. Interestingly, no research has been conducted so far on the direct effect of role clarity in literature whereas there is a remarkable body of work on the relationship of role stress(e.g., Savelsbergh et al., 2012; Drach-Zahavy and Freund, 2007; Pearsall et al., 2009) with team conflict (e.g., Jehn, 1997; De Wit, Greer, and Jehn, 2012; O'Neil et al., 2013; Hülshager, Anderson, and Salgado, 2009) The results of the aforementioned study are in agreement with those of ours inspite of the fact that there are some findings suggesting that role stress, role ambiguity, role conflict, and role overload have some negative impact on team processes and performance outcomes (e.g., Drach-Zahavy and Freund, 2007; Pearsall et al., 2009). There are also some studies finding no significant correlation between role ambiguity and team performance(e.g., Savelsbergh et al., 2012). For instance, Savelsbergh et al.(2012) in their study composed of 283 subjects, a total of 38 project teams, they could not find any effect of team role stress on team performance. As a result of the investigation, although there was a negative correlation between team role conflict and team quantitative role overload and self-rated team performance, there was no significant correlation between role ambiguity and team performance. Similarly, Jehn (1997) offered three distinct types of team conflict, namely, task conflict, relationship conflict, and process conflict. Specifically, it was argued that relationship conflict - involving interpersonal tensions, frictions, and resentment—can harm team performance, task conflict - involving different ideas, perspectives, and viewpoints regarding the work itself—has the potential to improve team performance, and process conflict - involving incompatibilities in views about how the work should be accomplished (e.g., distribution of workload, order of tasks to be completed) - can be harmful for team performance because they create inefficiencies. However, research findings for the effects of conflict types on team performance have been mixed (See De Wit et al., 2012; O'Neil et al., 2013). In particular the effects of task conflict that may occur as a result of role ambiguity, which refers to “disagreements among group members about the tasks being performed” (Jehn and Bendersky, 2003, p. 200), do not seem to be clear. Some researchers found a beneficial effect of task conflict (Behfar, Mannix, Peterson, and Trochim, 2011; Jehn, 1997), others found a negative one (Langfred, 2007), some even found no significant effect (De Wit et al., 2012; O'Neil et al., 2013; Hülshager et al., 2009). For example, De Wit et al. (2012), in their updated meta-analysis study, found that team performance was negatively related to relationship conflict and process conflict, whereas the relation was essentially zero for task conflict. O'Neil et al. (2013), in their meta-analysis study, found that the impact of task conflict, relationship conflict, and process conflict on team innovation

performance were essentially zero. Similarly, Hülshager et al.'s (2009) meta-analysis found a null relation between task conflict and team performance. O'Neil et al. (2013) stated that, whereas the task conflict and the relationship conflict appears to generally have small direct relations to team performance, theory would suggest the plausibility of stronger relations.

6.IMPLICATIONS

First of all, this study has explored the impact of vision components and RC on team performance at the team level. Although these concepts have been largely discussed at the organizational level, only recently the discussion of the impact of team vision and RC on team performance have started and there are still some empirical issues to be tapped. This is an attempt to fill some of those gaps that will allow the development of the team vision and role definition, as well as how exactly they impacts team performance.

This study helps to understand the important components of vision and RC on team level that contribute to the development of team success. Furthermore, the empirical analysis found that team vision is vital for team performance. These findings emphasized the importance of a clear vision to minimize the effects of team diversity and to promote team success.

From this study, the implications for managers and human resources practitioners are three fold. First, human resources practitioners could play a more proactive role in identifying teams that could benefit from team building. Specifically, the finding that the VC component improved performance over the other team vision components could benefit human resources practitioners and organizational managers by providing increased clarity into ways in which leaders may best direct their teams (i.e., being clear about vision and setting goals).

Second, for the more successive teams, managers either need to set up to the plate be a visionary and create a clear vision for the team or allow/force the team to develop the vision themselves. Either way, these types of teams will be more successful if teams have a clear vision. In other words, team members must be clear about objectives and obtain feedback on the achievement of these objectives. Conflicting goals will impede integrated work, because team members are likely to be distracted by conflict and unclear about objectives.

Third, although there exists no correlation between role clarity and team performance based on the results of our study, there is the considerable and valuable body of work demonstrating detrimental effects of role conflict and unclarity of role on team processes and performance outcomes (e.g., Drach-Zahavy and Freund, 2007; Pearsall et al., 2009). In this context, Project managers perceiving signals of role ambiguity should stimulate members to collectively explore and reflect on the role division in their team, opening up the opportunity to experiment with a different role division and a reallocation of resources, to safeguard the effectiveness of the individual team members as well as of the

team as a whole (see also Charbonnier-Voirin, El Akremi, and Vandenberghe, 2010; Savelsbergh et al., 2012). As Drach-Zahavy and Freund (2007) noted, when each role within the team is defined, which leads him or her to see ‘the bigger picture’ and cooperate with others.

7.LIMITATION and FUTURE RESEARCH

Our study has a few limitations. Those limitations, however, offer future research opportunities. We have identified six such opportunities. First and one potential limitation of our study is the use of a student sample, which may weaken the generalizability of the results to teams in organizations that exist for longer periods of time and have a stronger impact on teammates’ real lives. But, in many studies, related to the team performance, student samples were used (Schippers, Homan, and Knippenberg, 2012; Pieterse, Knippenberg, and Dierendonck, 2013). It is unlikely that students differ from other populations in their behavior in achievement settings (Brown and Lord, 1999). To maximize generalizability to organizations, we sampled master students who were working professionals with a mean age of 31.8. They came from locations across the United States – from New Jersey to California. At the same time, we should recognize that another concern might be that the teams involved were student teams, rather than teams in organizations, which may raise the question of whether these findings can be generalized to field contexts. However, complementing experimental research with evidence from teams in organizations would thus seem equally important for future research.

Second, past studies on team performance suggests that there are several factors such as team characteristics (e.g. team size) and socio-demographics (e.g. team age) that influence the team successes (Rico, Sanchez-Manzanares, Gil, and Gibson, 2008; Choi, Lee, and Yoo, , 2010). Control variables such as team size and team age weren’t used in our study. Future research should take into consideration the more direct effects of these factors as they examine the impact of vision components on team performance.

Third, our study treated vision as a two dimensional construct. In future research, the vision constructs can be expanded and empirically tested. For instance, as Lynn and Akgun (2001) state, ‘perceived-correctness’ and ‘time/place-in-development’ of vision can be added to the vision components in our model. For instance, when the project progresses over time, the team’s perception of the vision as being ‘correct’ may change.

Fourth, in our study, the use of a one-item scale to measure VS may be problematic. The item has not been shown to demonstrate adequate psychometric properties. However, our finding regarding to the VS is consistent with a number of findings on the impact of vision support on team performance (Lynn and Akgun, 2001; Reid and Brentani, 2010). Regarding VS, future research should replicate the current findings with other measures of VS.

Fifth, although a direct association between RC and team performance has not been found in our study, it seems plausible that role conflict may affect team performance through the mediating function of role clarity (see Beauchamp and Bray, 2001). Future research

should examine how the level of role clarity influences the relationships between role conflict and team performance.

Sixth, and finally, as O'Neil et al. (2013) noted, there are three theoretically plausible contingencies of team conflict–team performance relations: the team task type (routine and nonroutine), the type of performance measurement method (self – ratings, supervisor ratings, expert ratings of output), and the teamwork setting (course-based student teams, organizational teams, and laboratory teams). Jehn (1995) suggested that task conflict is likely to facilitate team performance when the task is nonroutine. In contrast, task conflict in routine, predictable work serves less purpose and, indeed, may be inefficient and counterproductive (Jehn and Mannix, 2001). Performance measures taken from other sources (self – ratings, supervisor ratings, expert ratings of output) could generally can be more strongly related to vision and role clarity (O'Neil et al., 2013). Similarly, in the longer term teams, the implications of the conflict are more profound and the increased duration makes the occurrence of conflict spirals more likely (see O'Neil et al., 2013). We measured team performance with objectives measures, and our sample was course-based student teams. Thus future research should take into consideration, how task type, performance measurement method and team setting impacts the relationship between VC, VS, and RC and team performance.

8.CONCLUSION

Team vision and role clarity in teams are important, however, we surprisingly know little about them. In this research, we tried to shed light on team vision, its components, role clarity in teams and their impact on team performance. Within this context, we used a two-step approach. In first step, we analyzed nine new product development teams in three firms regarding team vision and its components that included: Apple, IBM and HP. The products investigated were the Apple II, Iie, III, and Lisa; Hp125, 150; IBM DataMaster, PC, and PSjr. Later, we empirically tested the impact of the two components of vision (VC, and VS) and RC on team performance. We found that VC has a positive effect on the team performance. We also found that, VS and RC have not any significant effect on the team performance.

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APPENDIX: Measures

Constructs	Items	Factor loading	Standardized indicator loading	t values
Vision Clarity	VC1) Before we began playing SABRE for real (after the practice rounds) a few statements were established <u>that helped</u> guide our efforts (e.g., target price, target market, etc.)	0.734	0.739	11.528
	VC2) Prior to beginning the real rounds (after the practice rounds), the team had a clear vision of the required product features.	0.910	0.895	26.994
	VC3) Prior to beginning the real rounds, the team had a clear vision of the target market.	0.829	0.805	12.848
	VC4) Prior to beginning the real rounds, the team had a clear understanding of target customers' needs and wants.	0.883	0.8872	21.985
	VC5) Our technical goals of the product were clear.	0.775	0.779	13.484
	VC6) Our sales volume goals were clear.	0.795	0.817	17.027
	VC7) Our overall business goals were clear.	0.877	0.891	31.353
Percent of variance explained = 69.066 Crombach's alpha = 0.923 CR=0.9392 AVE=0.6891				
Vision support	VS) Overall, team members supported the vision of our company.	Single item construct		
Role clarity	RC1) The expectations for team member behavior were clear to everyone.	0.897	0.899	7.988
	RC2) The roles of team members on this project were very clear.	0.960	0.957	9.655
	RC3) The responsibilities of team members on this project were very clear.	0.949	0.949	9.033
Percent of variance explained = 87.491 Crombach's alpha = 0.925 CR=0.9544 AVE=0.8748				