



VISION AND ITS IMPACT ON TEAM SUCCESS

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ABSTRACT

A strong vision is a main predictor for both organizational and team success. Although many studies conclude that vision is important at the organizational level, the impacts of vision on innovation/teams have received far less attention. The purpose of this paper is to discuss vision components and explore its impacts on team performance. After studying the vision on a series of 12 innovations at three companies (Apple, IBM, and HP), we empirically tested the impact of the three components of vision on overall team performance. Data were collected from 75 team members. We found that Vision Clarity and Vision Stability have a positive effect on team performance. We also found that, Vision Support is not significantly related to team performance.

1. INTRODUCTION

The concept of teams and teamwork is increasingly becoming an important concept key to new product development, productivity and quality in the workplaces. At the same time, the process of team building has become more complex and requires more sophisticated management skills (Revilla and Cury, 2009). The team 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). Teams span many functional areas including engineering, marketing, manufacturing, finance, etc., and new product teams must frequently be composed of individuals from different backgrounds and perspectives (Revilla and Rodriguez, 2011). Recent empirical research shows that most firms have implemented cross- functional teams for the majority of new product development projects undertaken (Hong, Vonderembse, Doll, and Nahm, 2005). Team vision is a shared purpose and plan of action that clarifies strategic fit and sets project targets and priorities that are consistent with the firm's design, manufacturing capabilities, and market requirements (Clark and Wheelwright, 1994). Ray and Bronstein (1995), state 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 (Levine and Moreland, 1991; Hackman, 1992; Kirkman and Rosen, 1999; Liden, Wayne, and Sparrowe, 2000; Zhang, Waldman, and Wang, 2012). Zhang and Doll (2001) state that, especially in new product development studies, product quality and manufacturing cost are mainly determined by the end of the product concept stage, before most of the design begins. Therefore, a strong team vision a final gate to proceed new product development, is very important. Similarly, many researchers explained and confirmed the positive impacts of team vision on team performance (Naylor and Ilgen, 1984; Eden, 1988).

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). Because in a team, individuals from various functional areas often have different ideas about the project, without effective team vision these individuals generally pull the project in different directions and thereby adversely affect the performance of the team (Ancona and Caldwell, 1992). 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).

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), assert 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, Vonderembse, and Doll, 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.

Vision is derived from Latin *Vide* "to see!" The exclamation point implies something other than seeing by ordinary sight (Lynn and Akgun, 2001). It implies knowledge and foresight (Cummings and Davies, 1994). It is a statement of the desired future state of something (Rice, O'Conner, Peters, and Morone, 1998). Brown and Eisenhardt (1995), for instance, describe vision from the perspective of new product development teams and define it as the meshing organization's competencies and strategies with the needs of market to create an effective product concept. In this same line, team vision is seen as a shared purpose and plan of action that clarifies mission, strategic fit and sets of project targets and priorities that are consistent with the firm's internal capabilities and the market place

realities (Clark and Wheelwright, 1993). Based on the above premises, this study identifies three components in the concept of vision. It should be vision clarity, vision stability, and vision support. 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. Similarly Lynn and Akgun (2001), identified three component of vision (clarity, stability, and support) and empirically tested its impact on team success. 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. 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.

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 stability (VS), means that a company’s vision remains consistent over time. Having a stable vision reduces confusion within an organization. If an organizational vision changes repeatedly – like “the flavor of the day” – people can become frustrated and confused about what they are supposed to do. Lipton (2003) points out that a vision should be stable. If not, one may not have created an appropriate vision for the organization. Nystrom (1990), for example, says that a change in market vision during the project helps other firms to capture that market niche due to confusion and misunderstanding those results from these changes.

The third vision component, vision support (VSP), 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. 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. In other words, without a supported vision by the people on 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 these three vision components (clarity, support and stability) appear compelling at an organizational level, there are conflicting arguments regarding their importance for organizations in general and even greater questions regarding their applicability at the team level. To illustrate, Collins and Porras (1995) assert that VC was absent at many of the greatest companies that they studied. For example, in 1937, when Bill Hewlett and Dave Packard formed HP, they decided to start their company first and then overtime figured out what they would produce. Similarly, in 1945, when Masaru Ibuka formed Sony, he had no specific product idea. After he formed Sony, he and his seven initial employees, conducted a series of brainstorming sessions to figure out what they would produce. The list goes on: Sam Walton and Wal-Mart, J. Willard Marriott and Marriott, Nordstrom, Merck, Procter and Gamble. These companies did not begin with a clear specific vision in mind. The organizational vision emerged over time.

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) state, although this aspect of the team is considered critical, our understanding of exactly what team vision is, what an effective product is, and its link with product development 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) developed scales and definitions for three project vision components - clarity, support, and stability—and tested these for impact on 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) state that for success new product development, the team vision factor is the most critical one needs to be explored in the future research.

In light of the conflicting literature on vision and its components at the organizational level and the limited empirical research on vision at the team level, the general objective of this study was to explore the impact of vision clarity, vision stability and vision support on team performance. Consistent with our general objective, firstly, we conducted investigations on 12 sequential real innovation teams in the computer industry within three companies – Apple, IBM and HP- on team vision and its components. Products included the Apple II, IIe, III, Mac, and Lisa; Hp85, 125, 150 and Vectra; IBM DataMaster, PC, and PSjr. Secondly, after studying on a series of thirteen real innovation teams, we empirically tested the impact of vision clarity, vision stability and vision support on overall team performance.

2. THEORY and HYPOTHESES

2.1. 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 success was a clear project 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. 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) states that teams having a clear vision can reduce cycle time. Conversely, Kessler and Chakrabarti (1996) argue 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 12 real innovation teams in Apple, IBM and HP, 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 was 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 in the 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, "to go execute the task – force plan." The result of this process was that the PC team had a very clear vision and 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 be 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 12 innovations, we hypothesize:

Hypothesis 1: Vision clarity is positively related to team performance.

2.2. Vision Stability (VS)

A clear vision is important, but if the vision changes repeatedly during the project, it can confuse and frustrate team members (Lynn and Akgun, 2001). VS means the extent to which a vision is unlikely to be changed by any market or technology development (Kantabutra, 2008; Kantabutra and Avery, 2007). Hanson and Lubin (1988) argued that team building is an effort in which a team studies its own process of working together and acts to create a climate in which members' energies are directed toward problem solving and maximizing the use of all members' resources for this process. Similarly, Khurana and Rosenthal (1997) argued that an explicit, stable product definition and an understanding of the trade-offs among customer requirements, technology, and resource/cost constraints are important factors for speed and productivity of new product development. More importantly, an effective vision should represent a general idea and not change dramatically over time (Gabarro, 1987; Tichy and Devanna, 1986). A vision which changes dramatically over time negatively affects planning and ongoing implementation of an existing vision, and unstable visions also bring about confusion among followers who are executing strategies and plans, eventually leading to deterioration in follower commitment to vision and organizational performance (Kantabutra, 2009). Similarly, Parikh and Neubauer (1993) state that by expressing an unstable vision, the moment followers start doubting the seriousness of the manager toward implementing the vision, cynicism is invariably the consequence.

In our initial study of 12 real innovation teams, we saw that in the unsuccessful projects the visions were noticeably unstable. For example, the IBM PC jr. was initially given a clean sheet of paper allowing the team to design the best home computer it could – independent of compatibility. But as the project progressed, senior management changed the rules and required the IBM PCjr. to be 100% compatible with the IBM PC. Although the original IBM PCjr. task force recommended that the computer be targeted to the consumer market at a price of \$695, over time the distribution and sales strategy changed to include both retailers and IBM's traditional distribution network. The latter added substantially to the price, as did the need to be fully compatible with the IBM PC. These changes pushed the price higher and higher. By the time the IBM PCjr. was finally launched, its retail price for a useable system was over \$1,200 and that was not price competitive.

On all the initial successful projects (of the 12 studied) – the projects remained stable from the early go ahead until launch. For example, the vision on the IBM PC remained constant from the time the task force received formal approval for development until it was commercialized. When the IBM PC team presented the final product release plan to IBM's senior management, most of the charts used during the initial task force proposal presentation were used again one year later for a presentation to the executive management committee just prior to launch. As Lowe recalls:

He [Don Estridge, the overall project manager], called me frequently and I remember the day he got approval to announce the project, he called and said,

'what you'd be proud of is that, of the charts we presented for approval, 80% of them are the identical same charts you used a year ago.

The HP85-Controller demonstrates one of the differences in a project's vision depending on the type of innovation. The other successful projects, Apple IIe, Mac and HP Vectra were incremental innovations and the IBM PC was a marketing innovation. These types of innovations have far fewer technical uncertainties than technical or radical innovations. These types of innovations may require a different vision profile. As background, HP launched its first "personal computer", called the HP85, in 1980. It sold for \$3,250. The HP85 came out of HP's calculator division. It had a 40-character 5" CRT screen, with up to 32K of RAM, a tape storage drive and a thermal printer. The unit was compact and portable because it was designed by many of the same people who developed the HP35 and HP65 portable calculators. Unfortunately, the size and weight design parameters of the HP85 limited its performance and functionality. Although a 5" screen was large for a calculator, it severely restricted the HP85's use as a personal computer.

During this time, the PC market was growing, but it was not clear to HP engineers nor to their marketers what a personal computer should be or for whom it should be targeted. A formal external competitive market and technical analysis of Apple and other personal computer companies were never conducted. As a result, the initial vision for the HP85 as a personal computer was somewhat unclear to team members. As Dan Terpack, the Division Marketing Manager for the HP85 recalls:

[Vision] Clarity wasn't there. I think fuzzy is the right word. You have to put it in the context of that time frame where there was talk about PCs, but not a lot of agreement to it.

As the HP85 project progressed, Bob Watson, who had a background in instrument controllers for HP, was brought in as the new divisional manager. When Watson learned about the HP85 and its capabilities, he thought that, with minor alterations including adding plug-in interface ports and a more convenient numeric entry keypad, the HP85 could be used as an equipment controller (e.g., to turn a piece of equipment on or off). The team agreed to implement Watson's changes and to simultaneously pursue the controller market with the HP85. The HP achieved success as a controller by capitalizing on HP's existing sales force. As a controller, the HP85 was successful, but as a personal computer it fell short in both sales and profit expectations. HP85 raises the issue that perhaps when dealing with technological innovations, much more flexibility is required in terms of project vision. It is reasonable to assume that given all the uncertainties for technical or radical innovations, an initial vision can remain stable ... and succeed? Thus consistent with literature in VS and our study of sequential innovations in computer industry, we hypothesize:

Hypothesis 2: Vision stability is positively related to team performance.

2.3. Vision Support (VSP)

A clear and stable vision is two components of an effective vision; the vision must also be shared and supported by others on the team. VSP 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), state 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, Ahuja, and Jones (2006), for example, states that promoting a unified team vision would seem to be important; professionals need to work at 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 and individual and collective accountability, (3) agree a common to getting the work done, and (4) have complementary skills.

In our study of 12 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 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

It'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 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 at 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 at HP and they refused to accept it. Larry Kelly, the HP 125 and 150 RandD 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. 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 works 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 Sydnes 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 VSP and our study of 12 innovations, we hypothesize:

Hypothesis 3: Vision support is positively related to team performance.

3. METHODOLOGY and ANALYSIS

3.1. 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.

3.2. Measures

To test the our hypotheses, a questionnaire was developed based on previous research from several disciplines including (1) new product development (e.g., Cooper and Kleinschmidt, 1987; Meyer and Pruser, 1993; Millson, Raj, and Wilemon, 1992; Nijssen, Arbouw, and Commandeur, 1995; Karagozoglu and Brown 1993; Bacon, Beckman, Mowery, and Wilson, 1994; 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 six 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 three items. An example item was: 'The vision for our company remained stable from the start of the real rounds through the end of the game'. VSP was measured with one item. The item was: 'Overall, team members supported the vision of our company'. 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).

3.3. Reliability and Validity

An exploratory factor analysis was performed to assess the dimensionality of the constructs of VC and VS by using principle component with Varimax Rotation. Unidimensionality was exhibited in this two constructs as only one factor surfaced in each set of analyses. Appendix shows the constructs whose eigenvalues are greater than one, factor loadings and variation explained by each item. Additionally before doing any further analysis, the reliability and validity of constructs items were tested. Appendix also includes crombach's alpha for each construct. Alpha coefficients of constructs are greater than 0.75 which indicates good reliability as suggested by Nunnally (1978).

Additionally to evaluate the convergent validity of the model constructs, a confirmatory factor analysis with three factors constructs, namely VC, VS and VSP, with a total of 75 measures, was conducted. The model was assessed using several goodness-of-fit indices (Table 1). The chi-square (χ^2)/degrees of freedom (df) value was less than 3.0, indicating an good fit (Arbuckle, 2006). The incremental fit index (IFI), goodness of fit index (GFI) and comparative fit index (CFI) values were all at least 0.90, representing a good model fit (Bentler, 1990), and the root mean square error of approximation (RMSEA) value was less than 0.08, indicating a reasonable model fit (Browne and Cudeck, 1993). A satisfactory fit was attained: χ^2/df (1.57), IFI (0.984), GFI (0.908), CFI (0.984), RMSEA (0.08). Additionally, as can be seen in Table 1, all observed variables had significant loadings ranging from 0.47 to 0.92. Consequently, a valid measurement model was obtained.

Table 1. CFA Testing of Vision Components

Factors /items	Standardized loads	t-values	R ²
Vision Clarity			
VC1	0.78	7.94	0.611
VC2	0.73	7.20	0.537
VC3	0.72	7.10	0.523
VC4	0.64	6.09	0.412
VC5	0.80	8.21	0.639
VC6	0.92	10.28	0.849
Vision Stability			
VS1	0.92	8.75	0.780
VS2	0.67	6.31	0.455
VS3	0.47	4.03	0.218
Vision Support			
VSP	1.00	12.33	1.00
X ² =41.33; DF= 26; CFI=0.984; GFI=0.908; IFI=0.984 X ² /df=1.57; RMSEA=0.08			

3.4. Analysis and Results

The means, standard deviations, and the correlation coefficients for all constructs were displayed in Table 2. The results indicated that team performance for cumulative profit was significantly correlated with VC, VS, and VSP at a confidence level of $\alpha=0.01$.

Table 2. Correlation Matrix and Descriptive Statistics

Variable	Mean	S. Dev.	1	2	3	4
(1) Cumulative Profit (\$million)	58	36	1.000			
(2) Vision Clarity	7.75	1.79	0.431*	1.000		
(3) Vision Stability	7.52	1.96	0.433*	0.583*	1.000	
(4) Vision Support	8.59	1.74	0.304*	0.534*	0.666*	1.000

Note. *Significance at $\alpha= 0.01$, (two-tailed), N=75.

To test team performance as an outcome variable for VC, VS and VSP, we performed Hierarchical Regression Analysis (Table 3). Predictor variables were entered in blocks. The predictor, VC, was entered first, followed by VS. VSP was entered finally to conclude the full model. Correlations between the team performance and each predictor variable, when the linear effects of the other predictor variables in the model were removed as the predictor variable, were shown in the part correlation column of Table 3. Results from the full model (model 3) revealed that VC ($t=2.140$, $p<.05$), and VS ($t=2.012$, $p<.05$) are positively associated with the team performance for cumulative profit. But VSP is not positively associated with cumulative profit. We found that of the three constructs, VC is the most significant predictor ($p = 0.000$) - contributing 18,6% to the variability in team performance. Thus, hypothesis 1 and hypothesis 2 are supported. But hypothesis 3 is not.

Table 3. Hierarchical Regression Results Predicting Team Performance

Models and variables	Regression coefficient	Standard error	Sig.	Partial correlation	Part correlation
(1) Vision Clarity	8.689.123	2.127.120	0.000	0.431	0.431
(2) Vision Clarity	5.460.745	2.553.944	0.036	0.244	0.220
Vision Stability	5.058.554	2.332.736	0.033	0.248	0.223
(3) Vision Clarity	5.666.478	2.648.145	0.036	0.246	0.222
Vision Stability	5.514.659	2.962.927	0.048	0.232	0.209
Vision Support	-954.522	2.741.298	0.748	-0.038	-0.033

Also, the summary of models was presented in Table 4. As can be seen in Table 4, The model 1 is significant, $F(1, 73) = 16.687$, $p = 0.000$, and explained 18.6% of the variance in team performance. The model 2 is significant, $F(2, 72) = 11.118$, $p = 0.000$, and explained 23.6% of the variance in team performance. Similarly the full model (model 3) is significant, $F(3,71) = 7.354$, $p = 0.000$, and explained 23.7% of the variance in team performance.

Table 4. Models' Specifications Summary Predicting Team Performance.

Model	R ²	ΔR^2	ΔF	Sig. ΔF
1 ^a	0.186	0.186	16.687	0.000
2 ^b	0.236	0.050	4.702	0.033
3 ^c	0.237	0.001	0.104	0.748

Note. ^a Predictors: (constant), Vision Clarity ($F(1,73) = 16.687$; $p = 0.000$).

^b Predictors: (constant), Vision Clarity, Vision Stability ($F(2,72) = 11.118$; $p = 0.000$).

^c Full model, predictors: (constant), Vision Clarity, Vision Stability, Vision Support ($F(3,71) = 7.354$; $p = 0.000$)

To validate our results, in addition to using Cumulative Profit, we also used Cumulative Profit Rank as a measure of team performance (ordered team rank according to their cumulative profit; 1=greatest cumulative profit to 4=lowest cumulative profit). Thus, to test the relationships between the Team Vision Components (VC, VS, and VSP) and team performance for cumulative profit rank, we performed ordinal logistic regression analysis with the logit link (Table 5).

According to the fitting statistics for model with the logit link; the -2LL of the Vision Components model with only intercept is 237.483 while the -2LL of the model with intercept and independent variables is 209.970. In this case, the difference between the -2 log likelihoods—the chi square—has an observed significance level of less than 0.01 ($X^2 = 27.513$ with d.f. of 3 and $p = .000$). This means that the variables in the model do indeed have joint significance. Thus we can conclude that model for Vision Components is significant. The goodness of fit statistics is intended to test whether the observed data are consistent with the fitted model (Hair, Black, Babin, and Anderson, 2010). According to the results of the goodness of fit statistics for model with the logit link; the Deviance's chi-square ($X^2 = 209.970$ with d.f. of 245 and $p = .949$) for the model indicated that the observed data were consistent with the estimated values in the fitted model. In this case,

the results of our analysis suggest that the Vision Components model does fit very well ($p > .05$). The pseudo R square indicated that the proportion of variations in the cumulative profit rank variable was accounted for by the Vision Components variables. The larger the pseudo R square was, the better the model fitting was (Hair et al., 2010). In this mean the values of pseudo R-square for Cox and Snell, Nagelkerke and McFadden for team vision components model with the logit link are 0.307, 0.321, and 0.116 respectively.

The Parameter estimates results are the core of the output, telling us specifically about the relationship between our explanatory variables and the outcome. The estimate values labeled Location are coefficients for the predictor variables. Using the model with the logit link, Table 5 shows that the team performance for cumulative profit rank is significantly associated with the VC ($\beta = -.396$, $p < .01$) and the VS ($\beta = -.329$, $p < .05$). In other words, VC and VS exhibited negative regression coefficients, indicating that team members who rated higher levels of VC and VS are likely to rate a higher performance for the cumulative profit rank. However, team performance for cumulative profit rank is not significantly associated with the VSP ($p > .05$). As seen, the results for cumulative profit consistent with the results for cumulative profit rank. As a result, VC and VS were significantly associated with team performance for both cumulative profit and cumulative profit rank. But, we did not find any direct and significant association between VSP and Team Performance for either Cumulative Profit or Cumulative Profit Rank.

Table 5. Ordinal Regression Analysis

	Parameter	Estimate	Std. Error	Wald	df	p
Threshold	1	-7.21	1.49	21.40	1	.000**
	2	-6.03	1.43	17.81	1	.000**
	3	-5.33	1.39	14.65	1	.000**
	4	-4.31	1.35	10.24	1	.003**
Location	Vision Clarity	-0.40	0.16	6.04	1	.004**
	Vision Support	-0.05	0.17	0.08	1	.822
	Vision Stability	-0.33	0.16	4.23	1	.048*

Dependent variable: Team performance for cumulative profit rank

$\chi^2=27.51$ Cox and Snell $R^2=0.31$ Nagelkerke $R^2=0.32$ McFadden $R^2=0.12$ $p = .000$

Note. ** $p < 0.01$, * $p < 0.05$, , Link function: Logit.

4. DISCUSSION

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 (Baum, Locke, and Kirkpatrick, 1998; 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, vision clarity is the

most important predictor of project 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 vision clarity is significantly associated with new product success. Song and Montoya-Weiss (1998), by studying 169 radical projects, found that strategic planning which they related to vision is positively associated with new product 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, found that in low ambidexterity strategies clarity dimension is significantly associated with teamwork. Schein (1993), state that in order for organizations to succeed in unfamiliar environments, companies must reduce their anxiety by providing a clear vision of what has to be accomplished and by creating a psychologically safe environment. 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 also found that VS was significantly associated with Team Performance. This finding is consistent with prior research (Hanson and Lubin, 1988; Baum et al., 1998). For example, Baum et al. (1998) are among the first group of researchers who investigated the relationship between the vision attributes and organizational performance in American new ventures. They found that vision attributes of brevity, clarity, future orientation, stability, challenge, abstractness, desirability or ability to inspire impacted venture growth positively, both directly and indirectly, via vision communication. Lynn and Akgun (2001) found that vision stability is positively associated with success for incremental innovation. Slater and Narver (1995), state that robust stable vision is required to finish a project successfully and on time. Carmen, Maria, and Salustiano (2006), by studying with 960 Spanish firms, found that Top Management Team's strategic vision alone does not explain companies' innovation performance. Innovation also requires the existence of diverse, cohesive, and autonomous work teams whose members engage in fluent informal communication. Similarly, Jassawalla and Sashittal (1998), for instance, note that managers who provide guidance, encourage creativity, create a supportive environment that fosters exchange of ideas and cooperation, and develop a culture of consensus and continuous improvement are linked with effective new product development process.

In this study, we did not find any direct and significant association between VSP and Team Performance. This finding is somewhat contradictory to the existing scholarship. For example, Bessant, Caffyn, and Gallagher (2001), by investigating six incremental innovations, for instance, found that team VSP 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), states 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, for their project-level research, Lynn and Akgün (2001), in the case of project vision support, the link to new product 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), state that the findings on VSP 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 a new product program, but actions speak louder than words.

5. IMPLICATIONS

First of all, this study has explored the impact of vision components on team performance at the team level. Although this concept has been largely discussed at the organizational level, only recently the discussion of the impact of team vision on team performance has 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, as well as how exactly it impacts on team performance.

This study helps to understand the important components of vision on team level that contribute to development team success. Furthermore, the empirical analysis found that team vision is vital for team performance. These findings emphasized the importance of a clear and a stable vision to minimize the effects of team diversity and to promote team success. From this study, the implications for manager 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 and VS components improved performance over the other team vision components could benefit human resources practitioners and organizational managers by providing increased clarity and stability 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, this research also finds that stable vision has a positive effect on team success. If team vision changes repeatedly, individuals on team can become frustrated and confused

about what they are supposed to do. Therefore, managers should resist the temptation to change the team vision pre-launch. It becomes critical to get to market with the initially envisioned product and only after launch, when customers have had an opportunity to buy and try the product, should the team entertain changing the vision.

6. LIMITATION and DIRECTION for FUTURE RESEARCH

Our study has a few limitations. Those limitations, however, offer future research opportunities. We have identified five 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; Dipboye, 1990; Locke, 1986). 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 (He, Butler, and King, 2007; Rico, Sanchez-Manzanares, Gil, and Gibson, 2008; Gallert and Kuipers, 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 three 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, team performance was measured with cumulative profit value. Past studies on team visioning clearly suggest that team vision has a significant impact on different innovation type (Lynn and Akgun, 2001). Future research should take into consideration, how vision impacts the product development process and team effectiveness for different innovation type. For instance, how VC impacts teamwork, top management support, and incremental, radical and evolutionary innovation types are question that merit further investigation.

Fifth, and finally, in our study, the use of a one-item scale to measure VSP may be problematic. The item has not been shown to demonstrate adequate psychometric properties. However, our finding regarding to the VSP 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 VSP, future research should replicate the current findings with other measures of VSP.

7. CONCLUSION

Team vision is important, however, we surprisingly know little about it. In this research, we tried to shed light on team vision, its components and its impact on team performance. Within this context, we empirically tested the impact of the three components of vision (VC, VS and VSP) on team performance. We found that VC and VS have a positive effect on the team performance. We also found that, VSP has not a significant effect on the team performance.

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APPENDIX: Factor and Reliability Analysis

Constructs	Items	Factor loading
Vision clarity	VC1) Prior to beginning the real rounds (after the practice rounds), the team had a clear vision of the required product features.	0.922
	VC3) Prior to beginning the real rounds, the team had a clear understanding of target customers' needs and wants.	0.896
	VC6) Our overall business goals were clear.	0.861
	VC2) Prior to beginning the real rounds, the team had a clear vision of the target market.	0.850
	VC5) Our sales volume goals were clear.	0.777
	VC4) 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.)	0.756
	Percent of variance explained = 71.535 Crombach's alpha = 0.917	
Vision stability	VS2) The vision for our company remained stable from the start of the real rounds through the end of the game.	0.875
	VS1) Our technical goals of the product were clear.	0.819
	VS3) Our target market remained stable from Real Round 1 through the end of the game.	0.777
	Percent of variance explained = 67.950 Crombach's alpha = 0.753	
Vision Support	VSP) Overall, team members supported the vision of our company	Single item construct