PROJECT MANAGER OR PROJECT LEADER: WHAT IT TAKES TO CREATE A HIGH PERFORMING

Santor S. Nishizaki (Ed.D., M.B.A.)¹, William R. Seed²

ABSTRACT

This case study compares two projects that achieved success with integrated lean project delivery (ILPD). The frameworks are William Seed's new project manager theory, Bass's transformational leadership model, and Kotter's manager vs. leader. This study answered these RQs: 1. What are the personality traits, strengths, and leadership styles of the ILPD Project Managers? 2. Did the IPMs change their leadership style and behavior during the project lifecycle? 3. How does the behavior of the IPMs change over the life of a project? The desire for early team involvement in the design and development efforts and strong multidisciplinary collaboration demands a high performing team environment, which requires a new kind of leader. These teams delivered multi-million dollar hospital building projects under budget and ahead of schedule. Through interviewing the project managers and analyzing their StrengthFinder2.0 and DiSC Personality Assessments, this case study shows that the key to success in these particular teams was (a) team members' understanding of communication skills, (b) a mix of leadership strengths and personality traits, and (c) technical knowledge of experienced project managers [PMs]. Limitations of the study and its findings are discussed at length.

KEYWORDS

High performing team, integrated project delivery, project manager, leadership, DiSC

INTRODUCTION

Two teams were studied, which will be referred to as the east coast (EC) project team and the west coast (WC) project team, within the United States. To gain additional insight into what traits define an integrated project manager (IPM), the researchers used the DiSC personality profile and StrengthsFinder 2.0 assessments to determine if there are any traits or strengths that stand out in each team, as well as collectively across both teams. In addition, both teams were interviewed to examine if their leadership and communication skills transformed.

Show Design and Production Manager, Walt Disney Imagineering, Glendale, CA, santornishizaki@gmail.com

Executive Project Integration, Walt Disney Imagineeirng, Lake Buena Vista, FL Bill.R.Seed@Disney.com

As organizations begin to move away from the traditional design-bid-build method of delivery and toward the integrated project delivery method of lean construction, the mentality, leadership ability, and communication aptitudes must be adjusted and perfected. The purpose of this study is to observe whether the two separate IPD teams' project managers have similar strengths and behavioral tendencies that enabled them to meet their conditions of satisfaction under budget and ahead of schedule.

WEST COAST AND EAST COAST IPD PROJECT OVERVIEW

Both teams were assembled through a value-based proposal and interview process that sought to identify potential team members with the following attributes: innovation ability, target value design knowledge, willingness to learn, team strength (skills and abilities), and team chemistry (individual fit with balance of team). Table 1 depicts partnership structure, project description targets, and outcomes. The teams were assembled before design began.

Table 1. Project Size and Scope Comparison

	West coast	East coast		
Type of facility	Surgical hospital	Psychiatric bed additions; outpatient offices		
Facility offerings	144 beds, 6 operating suites, diagnostic imaging, full service care	80 inpatient adolescent Psychiatric beds and treatment areas		
Size of new construction	200,000 square feet, 500-car parking, 37 acres	21,000 square feet, 100-car parking, 5 acres		
Years concept to completion	3.5 (5 - 7 year market average) 20 days early	1.16 (1.5 - 2 year market average)		
Anticipated and real profit and costs	150%, target = \$144 MM(40% below market), final = \$144 MM, \$2 MM bonus	150%, target = \$9.9 MM (12% below market), final = \$9.75 MM, \$256 K bonus		
\$ Savings	18 MM design, 7 MM construction	700 K design, 750 K construction		
Challenges	Off-site road work	30-day site permit delay		

RESEARCH QUESTIONS

This study answered these RQs: 1. What are the personality traits, strengths, and leadership styles of the ILPD Project Managers? 2. Did the IPMs change their leadership style and behavior during the project lifecycle? 3. How does their behavior of the IPMs change over the life of a project?

LITERATURE REVIEW

THE BURNING PLATFORM FOR LEADERSHIP IN THE IPD WORLD

IPD, as defined by the American Institute of Architects, is "a project delivery approach that integrates people, systems, business structures, and practices into a process that collaboratively harnesses the talents and insights of all participants to optimize project results, increase value to the owner, reduce waste, and maximize efficiency through all the phases of design, fabrication, construction, and occupancy" (Duke, Higgs, and McMahon, 2010, p.9). With a variety of jobs and players coordinating efforts, project managers now see their contractor as their trade partner.

Seed (2014, p.3) states that "the early involvement of constructors and specialty trades, and strong multi-disciplinary collaboration with designers, demands a new kind of leadership". There are many viewpoints on the definition of leadership, as well as the key competencies of leadership. Kotter (1996, p.29) defines the key role of managers as to "plan and budget, organize and staff, and control and solve problems, whereas leaders establish direction, align people, and motivate and inspire". The role of manager still applies to the IPM, but now the IPM is expected to lead different stakeholders across multiple entities to ensure that, as a team they meet their conditions of satisfaction.

The project manager that pushes hard on the supply chain participants to perform—without their input or concern for their needs—would be less effective within IPD. Pushing can be compared to Maxwell's Level 1 Leadership (authority based on a job title), as well as Goleman's (2000, p.82) coercive leadership style, which he describes as "demands immediate compliance", which can be seen as contrary to lean principles. Zenger and Folkman's (2009, p.12) research indicates that there are five competencies of leadership (focus on results, personal capability, interpersonal skills, leading organizational change, and character) that primarily revolve around the character competency.

Project managers in lean construction must move away from a solely transactional leadership style to embrace transformational leadership. To understand the differences, Avolio and Bass's (2004) transactional leadership model consists of contingent reward and management by exception (active), while Avolio and Bass's (2004) transformational leadership model consists of the following traits: charisma, inspirational motivation, intellectual stimulation, individualized consideration.

While individual leadership in the IPD world is very important, group leadership is key. Rath and Conchie (2008, pp.22-23) found from their strengths research that "while each member had his or her own unique strengths, the most cohesive and successful teams possessed a broader grouping of strengths," and found that they consisted of "executing, influencing, relationship building, and strategic thinking". The concept of group leadership with IPD can be considered crucial because of the many disciplines that are involved in designing and constructing a building and the "win as a team" mentality. Rath and Conchie (2008, pp.23-24) go on to state that "Although individuals need not be well-rounded, teams should be" and that "a tool

like StrengthsFinder can be useful in determining how all team members can maximize their contribution to the group's collective goals".

COMMUNICATION AND EMOTIONAL INTELLIGENCE

Goleman (2000, p.80) defines Emotional Intelligence [EI] as follows: "the ability to manage ourselves and our relationships effectively consists of four fundamental capabilities: self-awareness, self-management, social awareness, and social skill". Patterson, et al. (2012, pp.9-10) state that "20 years of research involving more than 100,000 people reveals that the key skill of effective leaders, teammates, parents, and loved ones is the capacity to skillfully address emotionally and politically risky issues". With IPD being a relatively new concept and not a widely accepted process (thus potentially political and emotionally risky); it is necessary for project managers to be able to communicate at an extremely high level to be able to change the mindsets adhering to the typical design-bid-build delivery model. The IPM must be able to inspire others to think in terms of total value stream versus local optimization.

When dealing with others, Goleman (2000, p.80) defines one of the core competencies of social awareness as the skill of sensing other people's emotions, understanding their perspective, and taking an active interest in their concerns. Having the "proficiency at cultivating and maintaining a web of relationships" competency is crucial, because trade partners and design partners are now challenging themselves to work together to develop long term cost effective sustainable designs, reverse the erosion of labor productivity, improve the safety conditions, increase profit, and deliver optimum value to the final customer.

METHOD

The researchers chose the case study method because it presents an in-depth understanding of the case and understanding of several individuals' common or shared experiences (Creswell, 2013). The researchers chose to use the DiSC personality test, StrengthsFinder 2.0 Assessment, and author-designed open-ended interview questions to obtain in-depth answers on how the IPMs grew professionally over the course of their respective projects.

Having seen a number successful projects, and observing in these two cases a unique project team environment, the authors chose these two teams to determine if there is something that could be identified and replicated on future projects. The participants were chosen by the authors based upon a prior professional relationship and must be considered a convenience sample and also a purposive sample. These projects had resulted in a high level of success relative to their size and scope. Five main project leaders from each team participated, for a total of 10 participants. Both teams were able to finish their projects ahead of schedule and under budget, as well as maximizing the customer's conditions of satisfaction (see Table 1). Because of their group success, the authors chose a qualitative approach to acquire a deeper understanding how team chemistry and personality traits may have resulted in project success.

The researchers chose to use the DiSC behavioural assessment because it measures behavioral style rather than beliefs or attitudes. Sugerman (2009, p.152) states that "The key to a successful relationship lies with a person's ability to identify

what interpersonal style he or she prefers, and how to engage others whose own DiSC styles may be quite different".

The researchers examined whether there was a common behavioral style within both of these teams. According to TTI Success Insights (2014), the DiSC Assessment measures how one habitually does the following: responds to problems and challenges (D), influences others to one's point of view (I), responds to the pace of the environment (S), and responds to rules and procedures set by others (C). The DiSC assessment measures each participant's natural style of dealing with how they "respond to stress and the pressure to adapt to the environment" (TTI Success Insights, 2014, p. 11). Next, the researchers chose to measure whether the participants had similar talents and strengths in common, and used the well-known tool, StrengthsFinder 2.0. Further, the researchers conducted interviews via email with each of the project manager participants and asked them to reflect on (a) how their leadership and communication styles changed (or not) throughout the duration of their IPD project, and (b) what they remember as the defining moments that helped make the project succeed.

The DiSC Personality Test taken by all 10 participants is considered to have acceptable internal consistency (reliability) by achieving a Cronbach's α minimum of 0.826 and have been validated by external sources(TTI Success Insights, 2014). For SF 2.0, Gallup found by using Cronbach's α , that the StrengthsFinder 2.0 "has previously found test-retest reliabilities of 0.60-0.80 for the 180-item version of the CSF" (Asplund, et al., 2007, p.14). Based on Cronbach's α , both assessments are valid to describe strengths and behavioral style. As a human subjects concern, "There is no evidence to suggest any of the TTI assessments (DiSC) could cause adverse impact with regard to gender, race, disability or veteran status" (p. 2).

RESULTS

The table shows select participants' StrengthsFinder 2.0 and DiSC results, as well as each teams' results at the two lowest rows of each team's results. Core Clarity (2014) provided the results reports for both teams. For the WC team, activator was the top strength. This characteristic is defined by Rath (2007, p.41) as being "impatient for action" and as a mindset that "analysis has its uses or that debate and discussion can occasionally yield some valuable insights, but deep down you know that only action is real". For the EC team, the top strengths were responsibility and individualization, which demonstrates that collectively, they have the ability to depend on each other and appreciate the rest of their teammates for what they bring to the table. Another top theme is relator, which indicates that they get along well with teammates. From the S.F. 2.0. assessment, both teams are more naturally willing to work as a team while maintaining their dedication to getting the tasks done. The Integrated Form of Agreement (IFOA) environment allows them to think beyond the individual role or company affiliation to better the project. While there was diversity among the IPMs on each team, there was also consistency of focus on task management. The ability to maximize the individual talents while surrounded by individuals with complementary strengths in a trusting relationship helped focus the teams toward continuous improvement. The combination of responsibility and relator seemed to support each other. The relator characteristic reinforces amiability within the team, and the ability to count on each other reinforces the relationships. These traits may have allowed the

other unique traits to come to bear when needed, due to the trust formed. The researchers grouped the top two highest scoring behaviors. The DiSC Results table shows there are significant differences and similarities between the two teams. As an example of differences, the WC team's top workplace behaviors are urgency and versatility.

Table 2. StrengthsFinder 2.0 Results (Strongest on Left to Weaker on Right)

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West Coast Results								
Mech. Des.	Adapt.	Ideation	Strategic	Connect.	Relator			
GC 1	Relator	Ideation	Futuristic	Activator	Self-Assur.			
GC 2	Activator	Futuristic	Strategic	Command	Relator			
Electr.	achiever	competition	Restorat.	Response.	Harmony			
Architect	Response.	Command	Commun.	Activator	Achiever			
Comb.	Activator	Relator	Ideation	Futuristic	Response.			
Strength	Eager	Friend	Creative	Visionary	Depend.			
East Coast Results								
Owner	Ideation	Relator	arranger	learner	Intellection			
Mech. Des.	Achiever	Learner	Relator	Maximize	Response.			
GC 1	Harmony	Individual.	Response.	Consist.	Belief			
GC 2	Activator	Individual.	Strategic	Respon.	Futuristic			
Architect	Discipline	Analytical	Deliber.	Harmony	Focus			
Comb.	Response.	Individual.	Harmony	Relator	Learner			
Strength	Depend.	Discerning	Mediator	Friend	Curious			

Note. Italic indicates shared traits between the East Coast and West Coast teams.

Target Training International (TTI) defines versatility as "bringing together a multitude of talents and a willingness to adapt the talents to changing assignments as required" and urgency as "decisiveness, quick response, and fast action," which could help them mobilize quickly to overcome organizational bureaucracy and any other constraints that could prevent them from reaching their conditions for satisfaction. Next, the EC team's top workplace behaviors were an organized workplace and analysis of data, which qualifies them as a team that strives for a well-defined process and is data-driven. TTI describes the organized workplace behavioral style as "systems and procedures followed for success" and the analysis of data as "information is maintained accurately for repeated examination as required." These results are matched by one of the authors' firsthand observations. As an example of a major similarity: frequent interaction with others was high for both teams, which TTI describes as "dealing with multiple interruptions on a continual basis, always maintaining a friendly interface with others." After closer examination, the participants who scored 9.0 or above on the frequent interaction with others behavioral category scored above 50 points in their adapted style and natural style for the influencing category. TTI reports that these participants' natural style is to use persuasion and emotion to the extreme. They are positive and seek to win by the virtues of personality and verbal skills, displaying enthusiasm for projects.

Table 3. DiSC Results

WC Team		Natural style						
Role in project	Dom.	Infl.	Stea d	Com	Dom	Infl.	Stea	Com
Mechan. PM	66 Frequent interaction (9.0)	93 Frequent change (9.0)	14	6	78	94	34	6
Sr. Superinten.	41 Frequent interaction (7.0)	68 Competitive ness (7.0)	45	58	63	65	63	26
GC PM	93 Urgency (10.0)	65 Compet. (10.0)	12	26	100	66	7	35
Electr.PM	66 Organized workplace (9.5)	22 Analysis of data (9.5)	37	79	68	16	56	74
Sr.Arch.	62 Urgency (8.0)	74 Versatility (8.0)	24	58	68	68	14	38
Team M	66	64	26	45	75	62	35	36
Team Mdn	66	68	24	58	68	66	34	35

EC Team	Adapted style				EC Team Adapted style						Natural style			
Role in				Stea	Co	Do		Stea	Co					
project	Dom.	Infl.		d	m.	m.	Infl.		m.					
GC PM	63 Organized workplace (8.5)	32 Analysis of data (8.5)		38	77	68	28	58	61					
Mechan. PM	16 Follow-up and follow thru (10.0)	22 Following policy (10.0)		74	92	18	26	84	84					
Sr. Estim.	43 Frequent interactions (9.0)	93 Versatility (9.0)		14	32	62	93	22	28					
Owner PM	58 Follow-up follow thru (8.3)	38 Following policy (7.8)		65	56	62	28	68	55					
Sr. Architect	64 Organized workplace (9.5)	8 Analysis of data (9.5)		24	93	66	24	14	91					
Team M	49	39		43	70	55	40	49	64					
Team Mdn	58	32		38	77	62	28	58	61					
Both teams combined M		57	52	35	58	65	51	42	50					
Both teams combined Mdn		63	52	31	58	67	47	45	47					

Note. Styles: dom. = dominance, inf. = influencing, stea. = steadiness, com. = compliance, compet. = competitiveness; parentheses indicate participant's top workplace behavioral score.

Only one person scored above 90 for the dominance category; TTI states that such a score indicates that a participant "tends to deal with problems and challenges in a demanding, driving, and self-willed manner. He or she is individualistic in his or her approach and actively seeks goals." The participant with the lowest score in the dominance category is described as being "cautious in approach to problem solving and does not attempt to demand that his or her view or opinion be accepted at face value. He or she likes to solve problems within the framework of a team environment and will look for a compromise as opposed to a win-lose situation."

For the steadiness behavioral category, the highest score was 84 for natural, and 74 for adapted. TTI describes this participant He or she "prefers to complete one task before starting the next and prefers an environment that is predictable." The lowest

score in this category was 12, indicating one who is "comfortable in an environment that is constantly changing. Even when the environment is frantic, he or she can still maintain a sense of equilibrium.

For the compliance behavioral category, the highest score was a 93 for adapted and 91 for natural style. TTI states that this participant "is concerned with doing things right. He or she will follow rules and procedures to the letter and feels comfortable in a situation in which exact standards and written procedures are the rule of the day." The lowest compliance score is 6 for both natural and adapted styles. Such a person "does not like constraints; at times he or she can be somewhat defiant and rebellious".

INTERVIEW RESULTS

Participants were given Likert-scale and open-ended questions and all results were submitted in writing. Three concepts emerged as universally and strongly agreed on. First, while commanding is the more traditional leadership style for project managers, the ability to understand and use these [team-oriented] leadership traits frees an individual or the team as a whole to innovate. Second, a sense of shared pressure and responsibility rather than individual pressure, or a confidence in the team members that relieves some pressure, frees the team to innovate. Third, trust and vulnerability allow people to say "I don't know" and ask for help, which drives better outcomes, specifically with designer/builder interactions.

Participants were then asked: "During the course of your IPD project, did you exhibit or learn how to use any of these leadership styles: commanding, visionary, affiliative, democratic, pacesetting, coaching (Goleman's six leadership styles); charisma, inspiration, intellectual stimulation, individualized consideration (Bass's transformational leadership characteristics); or transform from one style to another?" The top response overall was a use of visionary. To ensure that all of the participants had a grasp on the theories, the authors encouraged questions for clarification, and gave clarification upon request.

Participants were asked a follow up question as to which of these styles, if any, they were aspiring to. The top two answers were visionary and coaching. For this question, another that the WC team participants rated highly was charisma. For the EC team, coaching was more highly rated, then democratic and charisma. One participant stated, "ILPD projects dictate that you become a coach, inspire others...Traditional project delivery methods lend themselves much more to a command and control style of leadership, mainly in my opinion because you're starting from a contractual position of distrust versus trust." Another participant commented, "I feel that I need to add more of the coaching leadership style to my overall leadership style...helping others learn to be better leaders in an effort to build a bigger leadership pool. This is both internal to our organization and within project teams." One participant stated, "I think that we were successful because I allowed the field leaders an opportunity to think freely without the threat of retribution. This fostered an environment of collaboration and innovation that would occur in a normal situation," while another participant stated, "While I understood, as a manager of my staff and co-workers, the need to incorporate these competencies [EI] into the management of people, the IPD process helped me to appreciate the effect and benefit." One participant stated, "I definitely got better at social awareness and especially empathy. Because of the dynamics of the project I was able to see how other people worked and how things affected them." A change of leadership mind-set took place for participants, due to an IPD process that requires an IPM who expresses empathy with trade partners.

Participants were asked: During the course of your IPD project, did you develop any of Goleman's EI competencies that had not been used in a traditional project delivery? Across both teams, the vast majority strongly agreed with the team mentality principle for their IPD projects, and they had to use different leadership styles to accomplish the project as a team. One of the top three themes that emerged from the interviews was that while commanding is the more traditional leadership style, the ability to understand and use other leadership traits frees an individual or the team as a whole to innovate. Similar comments included: "Put myself in the owner or user shoes more often." "Was able to work towards the right path for the project, rather than for my company." "My typical style starts with 'pacesetting' and then trends towards 'democratic' as trust is built." Common themes that emerged for leadership style were affiliative and visionary across both teams. Empathy was the most common emotional intelligence trait developed.

CONCLUSION

This case study offered an inside view of how successful project leaders perceived that they were able to harness their combined personality traits, strengths, leadership, and communication skills to successfully complete IPD projects. The DiSC results showed that no one behavioral style was common across each team; the median ranged between 24 to 68 (out of 100) for both teams. There were very high scores (90s) and very low scores (under 10), which shows that both teams had a diverse set of behavioral characteristics. There is not an IPM "alpha trait" shared in these two teams. For the StrengthsFinder 2.0 results, the EC team's top strength was responsibility (naturally dependable), whereas the WC team's top strength was activator (naturally eager). The results show that both teams had responsibility and relator (natural friend) in their top five strengths, meaning that, according to Core Clarity (2014, p.7), both teams are "devoted to enhancing existing connections, risking intimacy to build trust and loyalty," while at the same time include the virtue that "promised results occur with virtually no supervision". Both teams exhibited the ability to "purposefully forge deep, genuine, mutually beneficial, and ultimately longlasting relationships". The top leadership styles that the participants noted overall were visionary and coaching (Goleman, 2000). Participants noted it is more difficult to apply pressure to a trade partner than a traditional subcontractor, which indicates the IPM must be empathetic towards the needs of their team members to reach a joint goal, and not use a primarily directive style. The main take-home message is that in a team environment, no one behavioral style is necessarily better than another, but when they are combined successfully, the end result can be optimized outcomes.

A limitation of this study is that it only examines a small sliver of the IPD projects that are currently underway in the world. It would be advantageous to use different tools, such as the Belbin and Myers-Briggs assessments. Lastly, it would be beneficial to interview the followers of the leaders under study to truly understand the impact on the project from their perspective.

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