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Using IOP as a mechanism for project team management

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**Graduate Research Proposal
GRAD 699 (PMGT)**

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Abstract

This project investigates the application of Industrial Organizational Psychology (IOP) in project management. Project managers are responsible for creating effective teams and building a proper environment to communicate, collaborate, and deliver their tasks. Factors such as lack of trust, miscommunications, and personal conflicts lead to dysfunctional teams which can ultimately fail a project. Thus, understanding the behavioral characteristics of the team members and realizing the psychological principles of the interpersonal relationships in organizational settings would significantly help project managers. The purpose of this project is to find out whether project managers can exploit IOP for effective team management. By an exhaustive review of literature and focused examination of two case studies, various behaviors and personal traits have been explored and mapped to one's functional and behavioral characteristics. Because of the nature of this project and the research instrument, i.e. case studies and literature survey, qualitative research approach was adopted; this method of research is appropriate for in-depth study of social and psychological topics.

Finally, it is concluded that not only project managers can exploit IOP for effective team management, but also they benefit from the awareness of human psychology that IOP provides. The findings of this research and the characteristic profiling presented here deliver a comprehensive understanding of interpersonal behaviors and make it possible for successful team management.

Introduction

Team management is one of the most important aspects of project management, and the fate of a project is determined by the efficiency of its cooperating functional units or collaborative teams. According to the United States office of personal management, “a collaborative team environment is essential for the team's success” (Kimball Fisher, 1997). Project managers have to work with various teams and departments in order to deliver their projects successfully. Therefore, creating an effective environment for team collaboration and ensuring the harmony among team members are of utmost importance for project managers. According to PMBOK, project managers define the roles, responsibilities, objectives, visions, and goals of the projects (A Guide to the Project Management Body of Knowledge, 2013). More importantly, project managers have to manage and supervise the progress of the projects while encouraging collaboration, building trust, and resolving conflicts and issues among groups and team members (Cardinal, 2015). Successful project managers are effective coaches who make various teams with different issues work together to get the job done (McLees, 2015).

Having carefully-selected productive team members on board help project managers form effective teams and potentially prevent undesired conflicts, so it is extremely important for project managers to have strong interpersonal and social skills in addition to their technical knowledge and practical expertise. It is worth noting that team collaboration is directly related to human interactions and their complexities. Therefore, the understanding of human psyche—specifically within organizational settings, empowers project managers in dealing with various issues and conflicts which rise in the course of a project. It is therefore concluded that a practical understanding of human psychology in organizational settings has significant impacts on the success of projects. In particular, project managers can increase teams’ effectiveness, resolve

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conflicts, supervise teams, and lead people by realizing and exploiting the root causes of constructive and destructive behaviors.

On a different note, industrial-organizational psychology (IOP) is “the scientific study of the psychological issues in industrial and organizational settings” and “the application of that science to workplace issues facing individuals, teams, and organizations” (What is I-O?, 2017).

Examining the relationship between the two subjects of project management and IOP, a significant gap in the application of IOP in project management exists. This gap has provided the opportunity for a comprehensive investigation on how project manager can exploit the scientific results of IOP in real world applications. This project tries to bridge the gap and provide a practical framework consistent with IOP findings for project managers.

The findings of this project provide practical guidelines, standard operational procedures, and a tangible framework for project managers to exploit principles of psychology in dealing with issues such as team conflicts.

Problem Statement and Justification

The main question of this project is “can project managers exploit industrial organizational psychology as a mechanism for effective team management?” Considering the scope of this project along with the limitations and my resources (which are explained later in this document), secondary questions which arise from the primary research question are:

- What are the major psychological elements, traits, and issues which are involved in teamwork and collaboration?
- What are the main destructive behaviors and fatal roots of conflicts within teams and groups?

- How does IOP address the issues and behaviors found in questions above?
- How can the findings of IOP be integrated in project management?

All research questions are aligned with the main theme of the project which is the application of IOP as a mechanism for project team management.

There are indeed other aspects of project management which can be investigated and analyzed through the industrial organizational lens, but the focus of this project is clearly on the exploitation of IOP principles in the context of teamwork management. It is worth noting that there are two sides to the problem. First, the project team management has been a consistent challenge for projects. Collaboration, communication, trust, and resolving conflicts are among the most important success factors in project team management, and they are all essential for creating effective teams and ultimately for projects' success. Second, the use of IOP as a tool has been advocated as a mechanism for team management. All the issues that are affected by human psychology in professional work settings can be addressed by IOP. Project managers can enjoy this understanding to create effective teams, resolve conflicts, and manage project teams.

Having effective teams which collaborate, communicate, and trust each other is an important success factor for project managers. On the contrary, team conflicts and destructive behaviors can potentially fail projects. Since these issues are affected by human psychology in professional work settings, IOP can be used as an effective mechanism for team management to deal with behavioral issues amongst team members. To further justify this project and its significance, the findings of this work provide project managers with essential information which is not currently available.

Hypothesis

It is expected to reach the conclusion that project managers can indeed exploit IOP as an effective mechanism for conflict and team management. Moreover, they can use the principles and the awareness that IOP provides to build an appropriate environment for effective team collaborations. The hypothesis, therefore, is: there exist a direct correlation between projects' success and exploitation of IOP by project managers.

In short, if project managers are empowered by the knowledge of IOP, they will be more successful in delivering their projects and can address interpersonal issues to resolve conflicts more effectively.

Limitations of the Proposed Project

This work identifies fatal team conflicts in projects on one hand and elaborates on psychological principles of human behavior in an industrial setting on the other. It is worth noting that “the list of reasons why projects fail is quite large” (Kerzner, 2014), and in addition to behavioral conflicts (these are the traits which are discussed and examined by IOP), there are more than 40 typical reasons which can lead to a project's failure (Kerzner, 2014). These non-psychological problems are not studied, examined, and investigated in this work. In other words, only psychology-based variables which are directly related to team conflicts are discussed in this project.

In addition to the limitations on research variables, the information of this work is limited to secondary sources. Data will be collected from project management case studies, journals, and other valid and reliable resources. Since primary data will not be used, the findings of this work are limited to the most up-to-date information which is publically available.

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Finally, the scope of the project is limited to an academic literature survey. Real-world application of the findings of this work and long-term evaluation of the results are not considered. These aspects of the project are recommended for future research.

Outputs and Deliverables of the Project

Hevner (2004) describes two paradigms of behavioral-science and design-science in information system research (Alan R. Hevner, 2004). This project proposal follows the “behavioral-science paradigm” (BSP) because the BSP “seeks to develop and verify theories that explain or predict human or organizational behavior” (Alan R. Hevner, 2004).

The specific deliverables will be a comprehensive review of IOP and a thorough investigation of projects’ failures with a focus on team conflicts and interpersonal issues (by investigating case studies).

The artifacts include:

- Identification and classification of the most important project failure factors
- Identification and classification of destructive psychological behaviors in IOP
- Identification and derivation of the correlation between project failure factors and IOP findings
- Raising the awareness about application of IOP in project management
- Providing well-researched solutions to research problems

Consistent with the goal of behavioral science research, the goal of this project is to find the truth and explain the interrelationship of project management and IOP (Alan R. Hevner, 2004).

A high level diagram of the proposed work is shown in figure 1 below. The research can be divided into:

- Exhaustive investigation of projects' case studies,
- Comprehensive review of IOP literature, and
- Derivation of the correlation between project management and IOP.

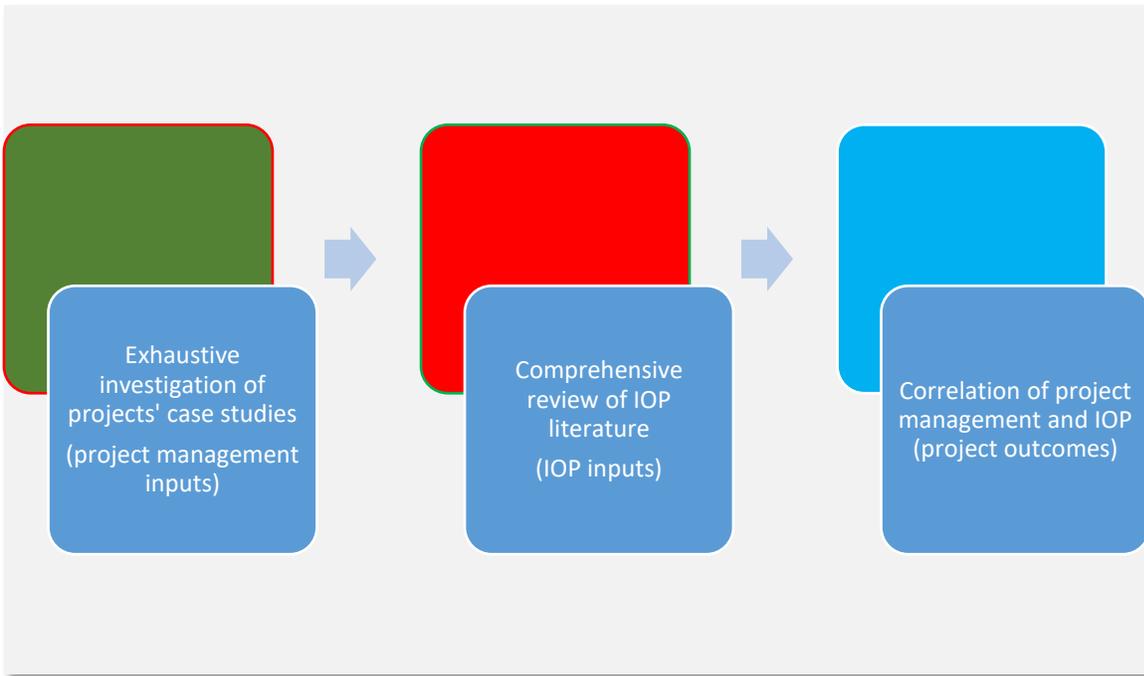


Figure 1. A high level diagram of the proposed research work

Literature Review

Up until very recently, work was organized around individual jobs (Kozlowski, Enhancing the Effectiveness of Work Groups and Teams: A Reflection, 2017). Therefore, industrial organizational psychology (IOP) was intended to study influential work behaviors and reactions of people at individual levels in workplaces, but this has been changed in the 1980s. Organizations restructured the work from individual-based jobs to team-based ordeals in order to gain better, more rapid, agile, and adaptive outcomes. This has significantly increased the

interest of team effectiveness subject among IOP and management scholars (Kozlowski, Enhancing the Effectiveness of Work Groups and Teams: A Reflection, 2017).

As discussed before, the primary research objective of this proposal is to investigate the role of IOP in project management. More specifically, this project tries to develop a practical framework for building effective teams and resolving various conflicts based on IOP principles. Applying psychology and behavioral studies help project managers to avoid accumulation of negative emotions across projects which may result in project failures (Dean A. Shepherd, 2013). Therefore, the main theme of this paper is to discuss how project managers can take advantage of IOP and apply it in their projects for effective team management.

First, it is important to appreciate the role of project managers in economic activities. According to Hoffman and Kilian, the authors of the Oscar nominated movie “The Flight of the Phoenix” (1965), the need for experienced project managers are growing at a very high speed considering that 20% of the economic activities in the world is led by project managers in different industries (Brian J. Huffman, 2012). Following the emphasis on the important role of project managers, authors claim that in addition to the technical aspects of project management, there are some non-technical issues which are as important for successful delivery of projects. In other words, the knowledge of human psychology in addition to the experience and technical expertise is essential for project managers (Brian J. Huffman, 2012). According to the literature, there should be an emphasis on the soft aspects of project management including flexibility, close collaboration and communication among team members, motivation, and creation of self-organized teams (Brian J. Huffman, 2012).

Although, the attention to the soft aspects of project management started in mid 80s, this attention reached its peak in the past decade by introducing new people-related concepts. Team

conflict-resolution trainings, observing and dealing with various political issues, and addressing the concept of power in project management are some examples of the new discourse. The project management triangle (scope, time, and cost) and consequently project managers' responsibilities are influenced by interpersonal tensions (Brian J. Huffman, 2012). Huffman and Kilian (2012) have focused on real world interpersonal aspects of project management and the related organizational behavioral issues (Brian J. Huffman, 2012). Analyzing this paper shows that projects' failures are not merely due to technical issues, in fact there are non-technical concerns (i.e. soft aspects) such as differences in values, attitudes, needs, expectations, perceptions, resources, and personalities which cause serious conflicts in projects. The authors suggest that conflicts can be divided to task conflicts and interpersonal conflicts. Differences in visions, intentions, and expectations affect the tasks of the project (task conflicts) while interdependences, disagreements, and interferences affect teams' abilities, effectiveness, and efficiency (interpersonal conflicts) (Brian J. Huffman, 2012).

This article clearly shows the importance and the interconnections of a wide range of behavioral issues in project management: interpersonal issues of conflicts, group processes, and power struggles which appear inevitably in any project specifically within teams. They also demonstrate the impacts of interpersonal issues on some other important aspects of project management including budget control and trade-off management (Brian J. Huffman, 2012).

It is evident that besides technical skills, attention to organizational behaviors and interpersonal problems is required for project managers to apply project management triangle successfully. According to the literature, some major organizational concepts that need to be explored are (Brian J. Huffman, 2012):

- Team cooperation diplomacy

- Identification of sources of conflicts among team members
- Realizing the differences in values
- Clarifying the bases of power, trust, and motivation in projects

Consistent with previous findings, Thamizhmanii (2010) demonstrated that employees who are empowered and have the opportunity to initiate changes are more likely to take responsibility for their work (S. Thamizhmanii, 2010). Organizations can empower their employees by promoting personnel knowledge and skills, building organizational and personal trust as well as shared leadership (i.e. allowing employees to set their own goals). It is stated that highly effective teams must have a collaborative climate and a sense of shared leadership (McLees, 2015). Moreover, by studying and analyzing personal attributes, personality traits, emotions, and attitudes studies have shown that individual differences play an essential role in employee commitment which is crucial for organizational effectiveness and team success (Thomas E. Becker a, 2013).

By understanding and exploiting the principles of IOP, project managers empower their teams and ultimately deliver successful projects. It has been suggested “that empowerment strategies and team working can offer real benefits for employees and managers” (Cetin Bektas, 2013). In an empowered team, each member has the autonomy and authority to participate in the decision-making process and promote changes in the team in which he or she functions. Project managers, therefore, should allow for personal empowerment and true personnel engagement. Bektas and Sohrabifard (2013) believe that project managers can create efficient teams and demand meaningful work by understanding the interpersonal relationships among team members (Cetin

Bektas, 2013). It has been suggested that empowered members in a team show self-determination, competence, sense of meaning, and sense of ownership in their work; all of which can promote self-confidence (Robert E. Quinn, 1997).

Involvement in decision-making processes will facilitate the acceptance of those decisions among employees, and it helps teams accept organizational goals to a greater extent (Ertürk, 2010). When employees experience meaningfulness, they tend to feel more satisfied and committed to their jobs. This leads to higher performance and will increase employees' productivity (Sandhya Pentareddy, 2015).

Researchers have used different methodologies in social and organizational psychology to study team effectiveness over the past 60 years (Kozlowski, Advancing research on team process dynamics: Theoretical, methodological, and measurement considerations, 2015). One of the most influential methodologies was introduced by McGrath (1964). The method is called input-process-output (IPO), and it emphasizes the importance of team processes as a mechanism which team members put their resources and capabilities together to resolve task demands (Kozlowski, Advancing research on team process dynamics: Theoretical, methodological, and measurement considerations, 2015). Despite positive outcomes, there have been some unintended consequences in applying this methodology. The team processes are static, while team dynamics differ from each other and they vary within teams. Therefore, there is no single solution and design to apply for solving the problem, but these methods can be used to develop a framework to organize team processes in dynamic ways (Kozlowski, Advancing research on team process dynamics: Theoretical, methodological, and measurement considerations, 2015).

“Team autonomy is positively associated with individual autonomy” is another hypothesis that has been suggested by Jonsson & Jeppesen (Jeppesen, 2013). The hypothesis indicates that

preserving personal autonomy has positive effects on team performance, completing responsibilities, and team effectiveness. This finding can be a great help for project managers to know that by reducing the managerial tiers and granting personal and hence team autonomies, teams feel more responsible in disciplining themselves to complete work processes and make decisions within management's guidelines and visions (Jeppesen, 2013).

According to Mohammed and Alipour (ALIPOUR, 2014), one of the biggest sources of problems in group work is time management and scheduling. Authors argue that people have different perspectives toward time based on their pacing style, time urgency, and multi-tasking abilities; thus, synchronization of the teams and time management can cause serious challenges. They suggest that leaders should use temporal leadership organizing mechanism in order to influence organizations and teams to adjust team members' pace in aligned-deadline projects.

Temporal leadership construction includes two sides of task and relationship dimension. The task dimension helps leaders to structure, coordinate, and manage the time by building contingencies and problems and making sure that the task is finished before the deadline by synchronizing the team. The relationship dimension helps leaders to support team members in their work and contribution, task time related issues, and potential conflicts among them.

As a result, leaders who use temporal leadership mechanism have been more successful in synchronizing activities, minimizing conflicts among team members, and meeting projects' milestones (ALIPOUR, 2014).

Besides all the project processes, human factors, emotional intelligence, and project psychology play a significant role in a project's success or failure (Mascia, 2013). Effective team building is exercised with helping work groups become more effective in accomplishing tasks. It is worth noting that the exercise should go beyond a mere examination of tasks, member roles, and

strategies (Banerjee, 2014). In fact, it is essential for project managers to be “people-focused” in order to deliver successful projects. In other words, project managers should be able to build relationships and strong cohesive teams, create a mutual vision, and create harmonious relationships. There are no detailed psychological methodologies or psychometric tools available for project managers to apply in the human aspect of project management, but it is evident that project managers who recognize and appreciate the significance of human factors in projects and have the knowledge to overcome “people” issues with directorship and confidence are more likely to be successful (Mascia, 2013).

Therefore, the primary question of this research (i.e. can project managers exploit IOP for effective team management) is an essential concept in project management, and the findings of this work benefit all project managers regardless of their specialties or projects’ goals.

Research Methodology

This project tries to find the psychological bases for feelings and motivations which underline interpersonal behaviors; therefore, qualitative research methodology is adopted for this project. Moreover, qualitative research is the preferred methodology for in-depth analysis of case studies as well as social and behavioral topics (Helena Harrison, 2017). According to the literature the outcomes of this method of research “can lead to an in-depth understanding of behaviors, processes, practices, and relationships” which are aligned perfectly with the objectives and deliverables of the proposed project (Helena Harrison, 2017).

Secondary data will be collected by critical examination of case studies and other reliable sources. This is a research project which delivers a solid academic literature survey.

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Teams need support, evaluation, and time for reflection just as individuals do. DISC Profile is an organization that relies on team works and decisions made by teams. Its mission is to help companies create an environment for having strong leadership, being creative, increasing team understandings and better communication, reducing and resolving unproductive conflicts, building on each other's strengths, and working toward a common vision (Assessments for teams, 1997-2010).

In order to achieve this mission, DISC Profile uses different assessments and tests. DISC is an abbreviation which explains different personality styles of Dominance, Influence, Steadiness, and Conscientiousness. The company suggests that the quality of teamwork will improve by using and understanding these personal traits and this would lead teams having more effective relationships. Various reports including but not limited to comparison report, group culture report, and facilitator report are derived from the results of the assessments that will help different teams to know the challenges, strengths, and interpersonal behaviors. Moreover, the reports provide an overview of each team members' DISC style along with teams' strengths and challenges which are based on five important team behaviors: trust, conflict, commitment, accountability, and results (Bullwinkle, 2014).

These team dimensions help managers build productive and effective teams. They also assist the managers to gain an insight into what tasks a member needs coaching with and where to watch for stress on the team. In other words, this helps team members and managers to learn what behaviors they might expect from others and how to best collaborate. Common issues such as teamwork, team roles, meetings, and time management are the main parameters in identification of team dimensions. (Assessments for teams, 1997-2010). For example, the *comparison report* guides team members to compare themselves with others and create group maps and get tips in

order to work better with the people from the same group. The *facilitator report* describes the profiles of all team members, team's culture, and its data. The report helps the facilitator (i.e. manager) to have a better understanding of the team and prepare them for training sessions. *Group culture* report helps with guiding the needs, goals, fears, emotions, and behaviors of a team (Assessments for teams, 1997-2010).

As another case in the point of using industrial organizational psychology for effective team management we can look at Clifton Strengths. This is an organization which administers similar assessments to empower teams to perform at their best. These assessments could also help teams and team members with the understanding of their talents for analyzing different situations, influencing others, and building relationships within their teams. It consists of four main themes of strategic thinking, executing, influencing, and relationship building (Understand how your talents work with others, 2018). More specifically:

- Strategic thinking theme which is designed to stretch the team's thinking for the future
- Executing theme which focuses on implementing a solution
- Influencing theme that covers some interpersonal behaviors such as taking charge, speaking up, and making sure others are heard
- Relationship building theme which is concerned with holding the team together and strengthening their bonds (Understand how your talents work with others., 2018).

Needless to say, it is useful for managers and organizations to improve team performance and engagement at work. By assessing team members, it is much easier to structure the teams based on their carefully studied roles, energies, and talents which boosts their performance. For accomplishing the project goal and engaging team members, it is good to lead based on "what's

strong instead of what’s wrong” (Go Beyond Being the Boss & Coach Your Team to Greatness, 2018). DISC Profile and Clifton Strengths try to reveal “what’s strong” to the managers and team members so more effective teams with fewer conflicts are created.

The two cases presented here show the importance and the actual real-world application of industrial organizational psychology in project management, and by deeper understanding of their models and methodologies along with further investigation of the field, I should be able to answer my projects’ research questions.

Results and Findings

Following an in-depth analysis of the two case studies, I am presenting my findings in this section. First, the important characteristics of human behavior and their implications in projects will be discussed. I will then explain how project managers can use these findings to create more effective teams.

It is discussed that the characteristics of human behavior (behavioral characteristics) as well as her abilities to work within a team setting (functional characteristics) can be divided into four distinct domains. More specifically the behavioral characteristics can be divided into *dominance*, *influence*, *steadiness*, and *conscientiousness*. Each of these main categories includes a series of more specific attributes which are listed in table 1.

Table 1. The four major behavioral characteristics and their specific attributes

Behavioral Characteristic	Attributes
Dominance	Direct, Results-oriented, Firm, Strong-willed, Forceful
Influence	Outgoing, Enthusiastic, Optimistic, High-spirited, Lively
Conscientiousness	Analytical, Reserved, Precise, Private, Systematic
Steadiness	Even-tempered, Accommodating, Patient, Humble, Tactful

Functional characteristics which relate to one's abilities and performance within a team setting include *strategic thinking*, *executing*, *influencing*, and *relationship building*. As for behavioral characteristics, these functional characteristics are subdivided into several attributes. Table 2 shows the functional characteristics along with their key attributes.

Table 2. The four major functional characteristics and their specific attributes

Functional Characteristic	Attributes
Strategic Thinking	Analytical, Context Aware, Futuristic, Paying attention to Input and Ideas and Talent, Learner, Strategic
Executing	Achiever, Arranger, Believer, Consistent, Focused, Deliberate, Disciplined, Responsible, Restorative
Influencing	Activator, Commander, Communicator, Competitor, Maximizer
Relationship Building	Adaptable, Connected, Developer, Shows Empathy and Harmony, Positive, Relator

It is important to know that for both of the behavioral and functional characteristics all domains are equally valuable and one's professional character is a mixture of all eight components with different weights. The weighted mixture of these traits forms the characteristic profile of a person, and this profile provides a framework to create effective, collaborative, and productive teams. For example, a team without a strategic thinker or an executer or a dominant character is set for failure while a team with a healthy balance of all characteristics performs effectively.

Deriving the full psychological assessment of team members prior to a project provides a full description of the people and teams which helps the project to be successful. In other words, this explains the teams which can collaborate better with each other as well as which team members should be paired or selected for different teams. Project managers can use these findings as a stepping stone for team creation and team management. Based on project details and team

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assignments, project managers should pay attention to the characteristic profiles of their employees and select compatible members for their teams.

In addition to the characteristic profiling of the employees, project managers can use these psychological assessments to understand *the priorities, the motivators, and the stressors* of the team members. By a complete knowledge of individual priorities along with providing motivators and reducing stressors, project managers can avoid conflicts or manage them properly. More specifically, project managers can increase inter- and intra-team collaborations, generate enthusiasm, provide support, maintain stability, control challenges, and ensure project's progress and success.

IOP provides the foundation for characteristic profiling of the employees; IOP examines the work settings, constraints, and project details on one hand and people's behavior on the other, and it produces the roadmap for effective team management.

Conclusion

To conclude, this project provides a unique opportunity to bridge the gap between project management and IOP. By a closer look into the reasons of projects' failures and psychological explanation of human behaviors, a correlational investigation which allows project managers to exploit the principles of IOP (characteristic profiling) to manage team conflicts and ultimately avoid fatal crashes of their projects is presented.

This project was a behavioral-science research which followed qualitative research methodology. Secondary data was collected from case studies, journal publications, and other reliable sources. The information was analyzed and the correlation of input variables (human behavioral issues as discussed and studied by IOP) and output variables (team management and conflicts as managed

and faced by project managers) is delivered. In particular, major domains of behavioral and functional characteristics are discussed and individual attributes are presented.

Finally, project managers can create more effective teams by characteristic profiling of the team members; they can also motivate teams, mitigate stress factors, identify weaknesses, and create incentives based on individual attributes and psychological traits.

Recommendation

Following the completion of this project, it is recommended that:

- Project managers work alongside IOP specialists to develop customized guidelines for team management. This guideline is developed based on characteristic profiling, and it makes sure that the teams are created efficiently (both technically and emotionally). This project introduces a new paradigm of team management at an individual level, and the collaboration of PMs and IOP specialists is an essential part of this paradigm.
- IOP specialists should be involved with projects from the planning to the delivery. Current approach of a one-time characteristic profiling can be improved if teams and individuals are constantly observed and evaluated for their functional and behavioral status. If a team or an individual is not effective, PMs can then adjust their team management plans. This on-going observation of behaviors can eliminate a potential break down or failure in the future.
- To take advantage of the potentials of characteristic profiling, a general awareness of IOP and its application in project management is essential. Both project managers and employees should learn how to utilize IOP; guidelines and standard operating procedures should be designed and developed.

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