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Study of the impact of team morale on construction project performance

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Abstract

The morale of project teams is an important factor when considering the performance of project teams(Dye, 2011) (Yang, Liu, & Fellows, 2010). Morale can be influenced and project leadership has an important role to play in how people work in teams (Gauvreau & Belout, 2004). In research studying the performance of teams working on technology projects, it was learned that an organizational work environment that satisfies the personal and professional needs of individuals has a strong effect on team cooperation and drives team performance (Thamhain, 2004). In a study performed by the US military (Mael & Alderks, 1993), it was found that team performance improved with squad member perception of leadership team cohesiveness. Research from the Project Management Institute (PMI) has also stated that morale has a major impact on the motivation, and productivity of a team (Dye, 2011).

This paper aims to study the effects of improved morale on team productivity and whether morale does have a bearing on team performance. Techniques to track the performance of teams with their perception of project morale will be investigated. Various approaches to study and track the impact of morale on team performance are investigated in this research. The study of how morale influences team performance has steadily received increased attention (Bowles & Cooper, 2009) with organizations seeking to implement systems and procedures to positively impact morale and subsequently, team performance. The results of the survey conducted in this paper showed positive results between project performance and morale. This paper will provide a summary of morale improving measures implemented by organizations to cultivate team spirit and cooperation.

 Keywords

Project management, morale, team performance

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Preface

This section of the paper pertains to the basis for the research and how it is connected to the author's Curricular Practical Training (CPT). The author is currently working as a Field Engineer for PCL Industrial Construction Co (PCL). PCL is a general contractor based out of Edmonton, Canada. The author works for their US industrial construction division that focuses on projects in the oil, gas, and chemical, manufacturing, and power sectors. As a field engineer, the author is responsible for project engineering activities that involve the organization of project information in a manner accessible to field construction teams. The author is also responsible for the interpretation of project technical information and resolving discrepancies in engineering documents.

The author is currently working on the construction of a 1,000 MW power plant in Cecil County, Maryland. His role involves the management of the project change management process that includes the identification of scope differences between actual construction and contractual scope of work, quantification of the impacts of scope changes, and documentation and presentation of change events and cost and schedule impacts. Additionally, the author is responsible for the remediation of construction defects that fall within the responsibility of the contractor per contract warranty provisions.

This present project is the author's fourth project with PCL. Before PCL, the author completed twelve projects with two other companies. The author has witnessed firsthand how team morale can impact the drive of project team members and impact the performance of project teams. The question of how morale can impact team performance has always intrigued the author. Hence, the author chose to investigate this subject as part of his capstone research project. The research will review existing literature available on morale and project team performance. Existing research

on project team performance focuses on a number of topics surrounding morale and in some instances focusing only on team morale. This research paper will review papers focusing exclusively on morale and team performance, and also those that focus on related topics such as leadership style and team morale.

The theory of project teams is only valid when it works in the real world. Through this research paper, the author will also review examples from the real world with a focus on construction teams. Literature from construction companies focusing on morale and project teams will be included in the paper. The author will also include examples from his own experience working in construction in three countries, and several US states. Successful project management involves a blend of process and people management techniques (Yang, Liu, & Fellows, 2010), and it is important to consider both these aspects during project execution.

The author's graduate program at Harrisburg University focuses on Project Management and his research topic, which focuses on the successful functioning of project teams, is applicable and relevant to his major. Project teams are essential to successful project delivery (Pinto & Slevin, 1988). This research focuses on the study of morale and how it impacts project team performance will help the author connect his capstone research with his CPT. The author has observed firsthand how morale can impact the work environment and affect personnel productivity. If workers do not feel comfortable in their work environment, and do not believe in the project mission, they tend to be distracted and not perform at their peak (Dye, 2011).

The importance of project teams and their esprit de corps has always been a topic of interest to the author. The impact of these intangible factors on project performance has always been a question that has vexed the author. Construction projects are built by teams but the dearth of research focusing on this subject is surprising. This research will contribute to the author's studies

by answering some important questions on the working of project teams. The author's CPT experience will be enriched by the fact that this research is applicable to his work environment and his career goals as a construction engineer who intends to become a project manager.

Morale management has been a traditionally ignored facet of project management. As society was initially focused on developing the techniques and work processed to industrialize work processes, the importance of teams and individual contribution was ignored. In the last hundred years or so, industry stalwarts such as Frederick Taylor have drawn attention to the science of management and teamwork. Peter Drucker through his books on effective employee and enterprise management drew more attention to the working conditions of workers and what motivates them. Japanese thinkers with their emphasis on collaborative work environments and respective individual contributions did a lot to transform workplace satisfaction.

The Toyota Production System or TPS as it is commonly known forms the basis of a lot of workforce management philosophies. TPS is centered on the promotion of worker empowerment to make greater contributions to the work process. Decision making in the TPS framework is more bottom-up as opposed to top-down. This encourages worker involvement and promotes employee engagement.

This paper will explore some of the modern workplace philosophies, company strategies, and government policies to promote workplace happiness and improve productivity. The output of workers irrespective of their participation in the private or public sector makes a contribution to the Gross Domestic Product of nations and hence is important to consider for both governments and the private sector.

Introduction

Humans have worked in teams to accomplish shared goals since the start of time. Early humans hunted in groups to accomplish the goals of feeding their families. As the practice of agriculture developed, communities worked together during planting and harvest season to produce the food they needed. With the emergence of villages and cities, society required the establishment of governance and sustenance structures that addressed the needs of its inhabitants. Early forays into building major projects can be seen in ancient Rome under the auspices of the master builder Vitruvius (Le Bohec, 2000). Henry Gantt was one of the early proponents of scientific project management with his development of the Gantt chart that was used on projects such as the Hoover dam (Leon, 1934).

A common observation of the major construction projects built throughout history will highlight the importance of project teams. Teamwork and people are at the heart of projects and having the right personnel has been identified as an important factor in the successful completion of projects (Spalek, 2005). One of the key factors affecting the functioning of teams is morale (Ahmad, 2014) (Dye, 2011). Before exploring the subject further, let us review the definition of morale (thefreedictionary.com, 2017):

> The state of the spirits of a person or group as exhibited by confidence, cheerfulness, discipline, and willingness to perform assigned tasks.

This research will explore the various factors that have a bearing on morale. Based on the study of the underlying factors impacting morale, the consequences of ignoring morale will also be studied. The definition of morale states that morale can have a bearing on one's "willingness to perform assigned tasks". We will explore this in greater detail.

The construction industry is a fast-paced sector of the economy that is struggling with worker productivity. Per research conducted by the Construction Industry Institute (CII), construction productivity has declined steadily since the 1970's (Huang, Chapman, & Butry, 2009). Hence, it is essential for the construction industry to explore every possible avenue for performance improvement. Furthermore, construction labor is an important part of the building process and one of the major components of construction budgets accounting for approximately 28% of construction budgets (Construction Labor Market Analyzer, 2014). It is essential for the construction industry to make improvements in construction productivity to remain a competitive and profitable industry.

Through this paper, I will review literature pertaining to the study of morale and its impact on project team performance. The relationship between project team morale and construction productivity will be explored. Productivity is impacted by a number of factors and identifying the root cause is essential to improving performance. The working of project teams is challenging especially since projects have a short duration and employees may not have any incentive to work on team cohesion (Pinto & Slevin, 1988).

Project team management is an integral part of PMI's core knowledge area titled Project Human Resource Management (Project Management Institute, 2017). Human resource management covers the important aspects of leadership, motivation, and work place environment and conditions (Kane, 1986). This paper will explore the key factors of human resource management to understand how they impact team performance and productivity.

Project leadership plays an important role in settings the tone for positive team dynamics and improved morale (McCalister, 2016). Project leadership is responsible for communication and relaying instructions to team members. Without proper information and task objectives, team

members may feel a sense of abandonment that could lead to insecurity and increased concern about future work assignments (Leighton Group, 2010). Research has found a correlation between the lack of proper communication and a sense of dissatisfaction among team members (Warren, 1978). Leadership style should be balanced and not adopt a tone that could isolate team members (Goleman, 2000).

Morale can be influenced and impacted through employee well-being programs (Bowles & Cooper, 2009) (Fenton, Pinilla, Sing, Sadhra, & Carmichael, 2014). Effective communication has been identified as a key ingredient in building better team dynamics (Dye, 2011) (Gauvreau & Belout, 2004) (Huang, Chapman, & Butry, 2009). Team members look to project leadership for guidance on future tasks and success criteria for the acceptance of deliverables. It is incumbent on project leadership to provide this guidance and communicate the requirements of owners and customers to project team members.

Research on the topic of morale is essential to the establishment of scientific methods of morale improvement. Without a scientific, research inspired approach to the study of morale and how it is impacted, decision making on morale improvement techniques will be lacking. Organizations can positively impact employee well-being and morale (Bowles & Cooper, 2009) (Fenton, Pinilla, Sing, Sadhra, & Carmichael, 2014) (Klann, 2011). Morale improvement procedures should be based on the nature of the organization and the demographics of its employees – there is no one size fits all solution (Bowles & Cooper, 2009). This paper will also provide examples of morale improvement procedures used by organizations in the workplace.

Problem Statement and Justification

This research paper aims to study the various implications of ignoring the impact of morale and how morale can be leveraged to enhance team performance and engagement. Techniques to track the performance of teams with their perception of project morale will be investigated. The ideal scenario envisions a template for tracking morale from project start to finish where the team dynamics of people from different background working together may be studied.

Several studies have identified morale as an important factor affecting the performance of project teams (Mael & Alderks, 1993) (Pinto & Slevin, 1988) (Thamhain, 2004). Morale can be influenced and with the implementation of certain systems and processes at the workplace, the overall cohesiveness of a team can be positively impacted. In research studying the performance of teams working on technology projects (Thamhain, 2004), researchers learned that an organizational work environment that satisfies the personal and professional needs of individuals has a strong effect on team cooperation and drives team performance. In a study performed by the military (Mael & Alderks, 1993), it was found that team performance improved with squad member perception of leadership team cohesiveness. Research from the Project Management Institute (PMI) has also stated that morale has a major impact on the motivation, and productivity of teams (Dye, 2011).

Morale is only one aspect of project teams that could impact performance. Hence, it is imperative that the research thoroughly studies the possible linkage between morale and performance before concluding that it is the root cause for poor productivity. The null hypothesis for this research is that morale has no significant impact on the performance of project teams and

productivity. The alternate hypothesis is that morale has a significant impact on the performance of project teams and their results.

Methods to study morale are largely based on surveys. Techniques to study morale passively could yield a better understanding into the working of teams and worker satisfaction. However, these methods may be viewed as intrusive and may be subjected to greater scrutiny by research boards. Obtaining approval for such research initiatives may be cumbersome.

Understanding the impact of morale on team performance is another step in the right direction of determining what factors impact team performance. Research has identified several factors that influence team performance (Turner & Muller, 2005). It is important to differentiate and distinguish between all the possible causes of poor performance. This will enable the isolation and the study of the impact of morale on project team performance. However, the interconnectedness of the soft factors that impact performance could make it hard to distinguish the causes of poor performance (Turner & Muller, 2005).

This paper aims to focus on the construction industry. The construction industry is a significant contributor to the American economy (Huang, Chapman, & Butry, 2009). Morale may seem like an intangible factor in project team performance but through the utilization of surveys, researchers can obtain an indication of trends that may be considered as an indication of bad or good morale.

The hypothesis of this paper is that morale is a significant factor in the success of project teams. Without cohesiveness, communication among project team members will be hampered (Mael & Alderks, 1993). The aim of this research is to present the framework under which this hypothesis will be tested. This paper will not answer this hypothesis and the final results of the experiments will be addressed in future research.

Morale and its influence is best investigated under real world conditions. This research will solicit participation from real world organizations and propose collaboration whereby mutually beneficial parameters of project performance may be studied. Data will be collected through surveys and examples of these are given in this paper.

Literature Review - Analysis of Related Work

Morale has been the focus of research groups working on team dynamics within project teams and in large organizations for some time now (Mael & Alderks, 1993) (Turner & Muller, 2005). Team morale is the aggregation of the overall sense of wellbeing employees feel at a given organization or project team (Dye, 2011). The key factors influencing morale are flexibility, responsibility, standards, rewards, clarity, and team spirit (Goleman, 2000) (Stringer, 2002). Low morale can have numerous causes and in most situations employees do not join a team with a negative attitude (Dye, 2011). However, over the course of their employment attitudes can change.

Low morale can adversely impact the performance of a team (Larsen, 2017) and can impact the ability of project teams and organizations to retain their top talent. Without key personnel in place, project completion could be at risk. Low morale can also cause employees to lose interest in work assignments leading to poor quality output resulting in increased rework (Dye, 2011). Negative conflict at the workplace can have an adverse effect on employee morale and performance (Jehn & Mannix, 1999). To feel empowered, employees need to be provided with the flexibility and responsibility to administer their tasks. In an ideal scenario, options to choose team members should be made available to employees. Company and project management can further improve morale by setting clear standards and rewards that will make employees believe that they are operating on a level playing field (Dye, 2011).

Morale can be studied at an individual and group level, though it is more critical on a group level in the project scenario (Yang, Liu, & Fellows, 2010). Projects are completed by teams and not individuals and it is important to assess team morale rather than individual morale as a factor in the success of projects. An important factor in project team management is the team leadership. The quality of project leadership is important in the effective management of human resources and

the upkeep of their morale. An effective project manager should have a mix of skills such as problem-solving ability, results focus, energy and initiative, self-confidence, perspective, communication, and negotiation skills (Turner J. R., 1999). Leadership must have a combination of process based and people based management skills (Yang, Liu, & Fellows, 2010) to effectively influence project teams and impact their performance.

Morale is an important factor and can be influenced by additional wellbeing programs at the workplace (Fenton, Pinilla, Sing, Sadhra, & Carmichael, 2014). Employees need to be constantly engaged and this will ensure that they have a sense of direction (Dye, 2011). Employees that are not engaged will tend to feel that their workplace is not supportive of their initiatives and will seek other avenues for employment (Larsen, 2017). Employee satisfaction arises from a number of factors but it the same factors that keep employees happy and engaged (Fenton, Pinilla, Sing, Sadhra, & Carmichael, 2014). This is similar to the Anna Karenina principle as stated in the namesake classic written by Leo Tolstoy - successful teams are successful for the same reason, but unsuccessful teams fail for different reasons.

Companies seeking to improve the performance of their teams and ensure employee retention must focus on improving communication within their organization (Leighton Group, 2010). Without adequate internal communication, employees will not have any information about the future direction of the company and their own individual future in the organization. This is especially acute in the construction industry where job assignments are based on project timelines. After the completion of a certain projects, the ideal scenario is for the employee to be informed of upcoming assignments. Without this information, employees will become anxious about their future leading to low morale and possible employee departures (Leighton Group, 2010).

The subject of team performance and morale in the construction industry is not widely researched. Literature from other sectors or industries where morale plays an important role in the functioning of teams and the delivery of their results was reviewed. The military is one organization that studies the functioning of its teams and observes their results closely. It is essential for military personnel to be in a positive frame of mind to ensure that negative psychology does not affect their performance (Britt & Dickinson, 2006). The military has identified that morale, cohesion, and esprit de corps as important factors that can influence the performance of military units (Manning, 1991). Morale has traditionally been linked with the military as it was one of the first organizations that functioned as a collection of large teams.

Various other authors and behavioral psychologists have also worked on the subject of morale and human motivation. Human motivation is at the heart of their sense of morale and how they feel about performing in teams. Abraham Maslow provided one of the earliest interpretations of the workings of human motivation. He created the Maslow's hierarchy of needs to serve as an explanation of what motivates humans in their daily lives and work (Maslow, Lowry, & Maslow, 1979).

Abraham Maslow established that humans are motivated by varying levels of needs in what he established as a pyramid of needs (Figure 1).
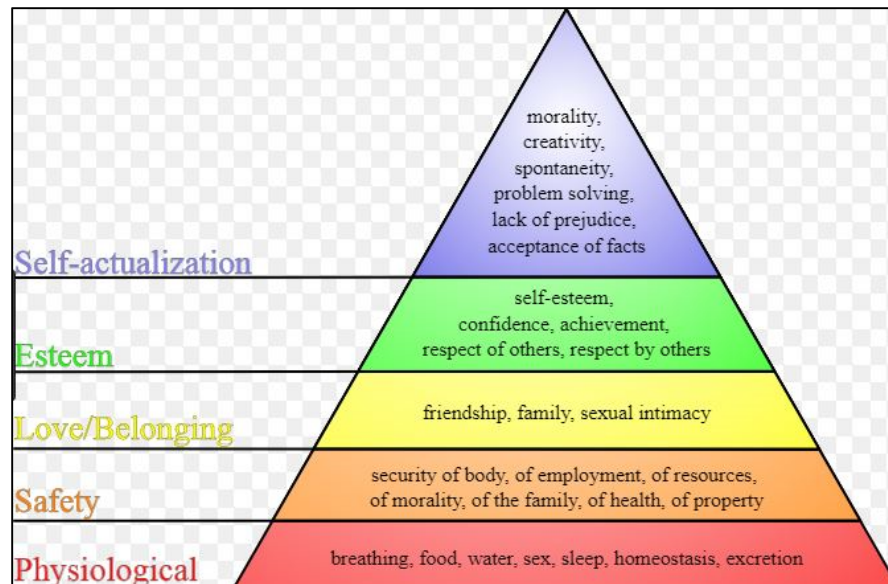
Figure 1 - Maslow's pyramid of needs

Maslow identified that at the heart of human needs are the basic ones. Humans first aim to establish that they have enough to fulfill their Physiological needs. These needs are concerned with the basic act of living and are something we are born with. A reflection on Abraham Maslow's seminal paper on the topic of human motivation affirms that physiological needs are the base requirements of all humans.

Physiological needs may seem to be basic and not a cause for concern but during the time Abraham Maslow was performing his studies on motivation, the state of the labor market was found lacking. It was common for enterprises to engage labor in report locations and conduct business in poor conditions. A notable project of the era, the construction of the Hoover dam, was notorious for its poor treatment of its workforce (Denton, 2016). Workers were housed in very basic living quarters, charged for ice water in a desert climate work location, and paid in vouchers redeemable only at company stores. This project was cited for poor working conditions by the Federal government and was forced to pay fines for its poor treatment of workers.

As the basic working conditions for workers are established, the hierarchy of needs establishes an elevation in the requirements of workers and employees. Once their basic physiological needs are fulfilled they work towards establishing a greater sense of contentment through the fulfillment of safety needs. Safety needs for individuals are centered on financial, health, personal security, and associated needs. In a study in Australia, it was found that workers facing financial challenges are more likely to have productivity issues (Human Resources Director, 2017). Employees were found to be unproductive for an average of 6.9 hours per week. Additionally, the study also found that they were likely to miss four days of work annually due to stress related illness.

Other needs identified by Maslow include, Love and Belonging, Esteem needs, and Self-Actualization. Workplaces must emphasize inclusion and acceptance of all workers irrespective of employee background and origin. Studies have shown several benefits of workplace integration and advantages stemming from an inclusive and diverse workforce (EC: DGEIRSA, 2013). Employees at diverse and inclusive workplaces are found to benefit from an environment of strengthened company values. This also enhances the corporate reputation leading to the hiring and retention of more skilled workers.

Maslow also listed as esteem and self-actualization as some of the needs an employee may seek to obtain from a workplace. No employee would want to stagnate at their workplace. There is always a need for professional development and growth at the workplace. A successful workplace must provide employees with training opportunities, cross-training, and professional development such that employees may further their career (Tanner, 2018). Esteem and self-actualization depends on an employ's view of their own development and image at their

workplace. This is contingent on the opportunities provided by their workplace for growth and development.

Employee morale is also dependent on the team dynamics of the organization (Ahmad, 2014) (He, 2012). Organizations must focus on team cohesion in order to develop a unified sense of purpose among team members. This in turn influences the espirit de corps of employees and has a direct bearing on team morale (Ensley & Hmieleski, 2005). Project Leadership should work with a focus on team cohesion and bringing them together. This will ensure that the project team will perform at optimal performance (Gauvreau & Belout, 2004) (Larsen, 2017). The initial phase of a project is essential in establishing the ground rules of team performance and ensuring that diverse groups function effectively together (Natvig & Stark, 2016).

The performance of all teams, including sports teams, is contingent on positive morale. The NFL has extensively studied and adopted the findings of Patrick Lencioni in establishing positive team spirit (Lencioni, 2002). In his main work on the subject of team work, Patrick Lencioni identified five dysfunctions that plague team performance. The five dysfunctions identified by Patrick include the Absence of Trust, Fear of Conflict, Lack of Commitment, Avoidance of Accountability, and Inattention to Results.

Another distinction that is often made in the management of teams is differing approaches for white-collar and blue-collar workers. As the US economy has steadily shifted from a manufacturing base to a services base, the percentage of the white-collar workers in the workforce has increased (Davenport, Thomas, & Cantrell, 2002). White-collar workers thrive in an environment of trust, and appreciate the ability to make more discretionary decisions (Hopp, Iravani, & Liu, 2009). White-collar workers differ from blue-collar workers in their evaluation of workplace job satisfaction (Hu, Kaplan, & Dalal, 2010).

White-collar workers were not found to form, on average, as close relationships with their colleagues as blue-collar workers. This led to a difference in their conceptualization of job satisfaction facets (Hu, Kaplan, & Dalal, 2010). White-collar workers have the ability to work in smaller teams and often as individual contributors. This leads to the establishment of a work environment where the formation of personal relationships with one's colleagues is not entirely necessary.

Blue-collar workers on the other hand perform work that requires input from multiple team members. Workers often work in teams where tasks must be completed by multiple individuals – for example the setting of heavy machinery. Due to this, blue-collar workers work more closely together and establish stronger bonds. This leads to a difference in their perception of job satisfaction (Hu, Kaplan, & Dalal, 2010).

The perception that white-collar workers can work independently is not completely true. Even independent consultants and contractors must engage clients and teams to complete their work. However, their perception of a client is much different from a coworker. Hence, white-collar workers will also benefit from improved team work though they may not entirely believe in the benefits.

Blue-collar workers tend to have a different work culture. This often starts with the way their careers begin without formal education post high school. Without college degrees, blue-collar workers tend to register for apprenticeships that foster an atmosphere of mentorship and learning. This leads to the establishment of collaborative relationships between coworkers that emphasize an atmosphere of cooperation.

Due to the limitations of time and resources, and the requirements of making accurate distinctions between blue-collar and white-collar job satisfaction, this paper will not focus on

obtaining data separately by work category. The primary focus of this paper will be white-collar workers and their conceptualization of job satisfaction.

There are several theories behind the science of human motivation. Douglas McGregor proposed that management assumes human motivation to be the consequence of two theories, Theory X and Theory Y (Gannon, 2013). The believers of Theory X purport that employees in general are not motivated. It is assumed that they are lazy and do not want to work. It is imperative that management determine ways to motivate and "push" employees rather than rely on them to be self-motivated and take the initiative. This Theory is aligned with the management theory of top-down approach. It is assumed that management must make decisions for the employees to ensure that they remain productive and engaged in their work.

Theory Y on the other hand assumes that employees are essentially self-motivated. It is based on the assumption that employees can be intrinsically ambitious and eager to take more responsibility at their workplace. It recognizes the importance of workers and provides consideration for their desire to improve their performance and act independently to effect change at the workplace. Theory Y seeks to empower the worker whereas Theory X falls short of this.

From the above literature review, it is clear that there are several theories and ideologies that influence the management of workers and how they must be motivated to ensure that morale remains high among team members. Morale is an influencing factor in the management and performance of teams. Literature from various sources around the world, from both academia and industry, acknowledge the role played by morale in the functioning of teams. It is essential that large employers make the effort to study the various trends of morale and the corresponding rise and fall in productivity.

Proposed Approach

The study of morale and the effects on team productivity has often been limited to survey studies and tracking of productivity. Due to the proprietary nature of productivity information it is often difficult to access these datasets for the study of trends and their correlation with morale. It is hard to track morale in a passive manner due the inabilities of modern methods to intrinsically track morale. Morale is tracked in an active manner through the solicitation of feedback.

However, the use of feedback gathering techniques such as forms and checklists can negatively impact the results. It may lead to participants being aware of the research objectives causing the results to be skewed or biased. Another way to approach this kind of research is through the use of blind studies. The users can be notified of a false objective for the research, and during the course of this research, feedback pertaining to morale may be obtained.

There is no silver bullet when it comes to removing bias from research but these are some of the challenges facing the study of morale in teams. From the literature review, a lot of the papers identified were based on experiential conclusions that are based on the author's findings. In the instances where feedback was obtained, forms and active feedback gathering methods were used.

Obtaining information on productivity is much easier. Most companies are concerned with the tracking of work output among their teams. This leads to the documentation and storage of productivity information for several years beyond the completion of projects. These databases serve as a basis for future work bids. The productivity of teams may also be tracked for litigation and research purposes.

In most cases companies may not be very forthcoming when it comes to sharing their productivity information. However, several forums exist where companies form research groups focused on industry trends. In these forums, participants share information through certain formats

that mask the actual details of the information. This approach encourages participants to be more forthcoming with their data and to contribute to a body of knowledge that they can leverage to further their internal agendas.

To determine if improved morale can influence project team performance, one must understand the factors that affect team morale. Prima facie, without any scientific research, morale does stand out as an important factor in team performance. If team members are not enthusiastic and happy to be a part of a team they will not put in their best efforts to influence the project outcome.

For the purposes of this research, a quantitative approach is proposed. Organizations with active project teams will be approached to solicit participation. The morale of the project team members will be evaluated based on their responses to a questionnaire developed considering key factors that influence morale. The questionnaire provides the participants with the opportunity to register feedback on a scale of one to ten, with one indicating the lowest level of agreement and ten indicating the highest level of agreement. The sample questionnaire is shown below.

The questionnaire will seek responses from professionals of all backgrounds regardless of their rank within the organization. This will provide us with an insight into how the question of morale and efficiency is viewed from different points of view. Leadership perspective will also provide us with information regarding how effective various techniques and approaches are.

The survey will closely follow the definition of morale as listed in the paper's introduction. The paper will compile data gleaned from the questionnaire focusing on confidence, cheerfulness, discipline, and willingness to perform assigned tasks. This will be compared with a perception of how productivity was affected during the same time period. The questionnaire will also have

questions focusing on the state of the spirits of the person or the group. Hence, some questions will focus on groups and others on individuals.

Sl.	Question	Rating
1.	My colleagues are shouldering the same level of workload as I am	0-10
2.	My colleagues are always willing to help me.	0-10
3.	My work relationships with my colleagues are good.	0-10
4.	I interact with my colleagues outside of work.	0-10
5.	Work assignments are evenly distributed among team members.	0-10
6.	Work assignments are selectively assigned on this project.	0-10
7.	Leadership actively participates in the project work.	0-10
8.	I feel recognized by leadership.	0-10
9.	I am given opportunities to grow in this team.	0-10
10.	I have been briefed on my individual expectations.	0-10
11.	The project goals are clear to me.	0-10
12.	The project processes and artifacts are clear to me.	0-10
13.	The wider organization is consistent in the execution of projects.	0-10
14.	I believe the reward structure in place for performance is fair.	0-10
15.	Corporate teams are always available to augment project teams.	0-10
16.	I feel empowered to contribute to work activities.	0-10
17.	My fellow teammates feel empowered to contribute to work activities.	0-10
18.	I believe that company directives and policies are aligned with company actions.	0-10
19.	I am generally happy to be at my current workplace.	0-10

20.	My office atmosphere is congenial and welcoming.	0-10
21.	I report to work on time and respect company rules and policies.	0-10
22.	My team has a high level of discipline and adherence to company rules and policies.	0-10
23.	I am willing to accept any task assigned to me.	0-10
24.	My coworkers are always willing to shoulder more responsibility.	0-10
25.	The team spirit at my workplace is positive.	0-10

Table 1- Questionnaire for Morale Factors

Project morale is affected by a number of factors but a significant one is the effect of "coasting" or "free-riding" (He, 2012). In certain instances, project team members do not contribute their fair share of effort to the project tasks. This behavior, also known as the commons problem (Edney, 1981), may lead to honest contributors feeling a sense of partiality. This could cause further erosion of team morale and cause contributing members to either feel burned out or quit leading to higher turnover.

Project leadership plays a pivotal role in the perception of equal treatment and fairness in project teams (Stringer, 2002). Project Managers and Project Directors must take the time to relay project goals and objectives to team members ensuring that workers are engaged and contributing to the bottom line.

Communication is another key factor that influences team morale (Gauvreau & Belout, 2004). Team members must be informed of project changes with a focus on why the changes are occurring. Due to human averseness towards uncertainty (Ariely, 2009), project leadership must make a conscientious effort to address information gaps and the future direction of project activities.

The questionnaire in Table 1 was developed considering some factors that affect team morale. In an ideal case, the research team would collect responses to the questionnaires on a monthly or weekly basis depending on the project duration. For projects that are forecasted to last longer than a year, responses will be collected on a monthly basis. For projects that are forecasted to last more than three months but less than a year, responses will be collected on a weekly basis. Projects with duration less than three months will not be considered for this research. However, for the purposes of this paper, only one survey response per respondent is used.

To study how the responses are correlated with project outcome, the project team will obtain data about project success factors from the project management team. Projects can be judged successful for a number of factors. For construction projects, cost, schedule, quality, and safety performance are generally considered as the main criteria in determining project success (Atkinson, 1999). This research will collect information using the form shown in Table 2. The success criteria factor will be categorized based on three levels – below expected performance, better than expected performance, at par performance.

Success Criteria	Performance Level
Cost Factors	
Budgets on track	0-10
Indirect Costs on track	0-10
Direct Costs on track	0-10
Subcontractor performance	0-10
Schedule Factors	
Milestone dates	0-10

Substantial completion	0-10
Final completion	0-10
Quality Factors	
Test rejection rate	0-10
Punch list size	0-10
Qualitative opinion	0-10
Safety Factors	
Total Recordable Injury Rate	0-10
Lost Time to Injury incidents	0-10
Employee participation	0-10

Table 2 - Project Success Factors

The project success factors will be collected after the completion of the projects. This information will be collected from all project stakeholders where applicable. Data for objective factors will be collected from project records. The status of the success factors will be compared with the general score compiled for data obtained through the Table 1 questionnaire.

Positive morale is expected to contribute to project team productivity. However, there are other factors that also influence project team performance. A project team with poor processes will be unlikely to succeed despite good team morale (Yang, Liu, & Fellows, 2010). This research will not study how other factors influence or impact project team performance. Research to isolate the impact of morale from other factors will require a larger team and a wider view of project team performance.

The sample group for the study will be sourced through industry forums. Construction companies that are keen to improve the performance, or at least develop a better understanding of

the impact morale could have the performance of their teams will be ideal candidates for the study. To foster a spirit of participation and ownership, the participants will be provided will a copy of the final research. The results will not be linked to any company and participant data will be secret and confidential. This will provide industry participant with a benchmarking tool.

This research has the potential to form the basis of a long-term study. The construction industry is a consistent contributor to the GDP of nations and it is important that the productivity of this industry is studied and monitored. Morale is one of the intangible factors that affect team performance and this in turn impact productivity.

This research project does not aim to collect data on a mass scale. Without the benefit of a research organization backing this research it will essentially be a herculean task. However, the research does aim to thoroughly explore the various techniques adopted to collect data regarding morale and productivity. This will help set a standard for the review of morale and how it impacts productivity. This can then be used as a basis for research on a larger scale.

Results and Discussion

The questionnaires provided the survey participants with an opportunity to rate the team dynamics and their impression of team spirit. The questionnaire covered both personal aspects of the participants work life and the general impression of their team mates. The participants of the survey included individuals mainly working in the contracting vertical construction sector but was not limited to the same. A total of sixteen responses were obtained for the survey. All respondents worked in the construction sector in roles such as project engineering, field engineering, project management, construction management, project directors, and design management. All respondents had worked in the industry for a minimum of five years.

The survey participants were all part of teams and not individual contributors or solo practitioners. This was important to ensure that the questions of the survey were relevant. The participants were encouraged to provide their responses in an excel spreadsheet and no online surveying platform was used. After the receipt of the responses, the survey results were input into a master survey sheet to provide an overall sense of the survey responses.

As the survey allowed for maximum of ten points for positive responses, or situations of maximum agreement with the survey question, a total score of 250 points was possible per respondent. It was noticed that the overall nature of the responses was largely positive. This indicates that most of the respondents were part of teams that they enjoyed being a part of. Most of the respondents contacted by the author were long-term professional acquaintances that have a strong history of employment. A more random survey involving individuals from a wider social network could have resulted in a diverse compilation of team satisfaction survey scores. The results of this first survey are shown in Figure 2 where the Y-axis represents the range of scores and the letters on the X-axis represents the anonymous individual respondents.
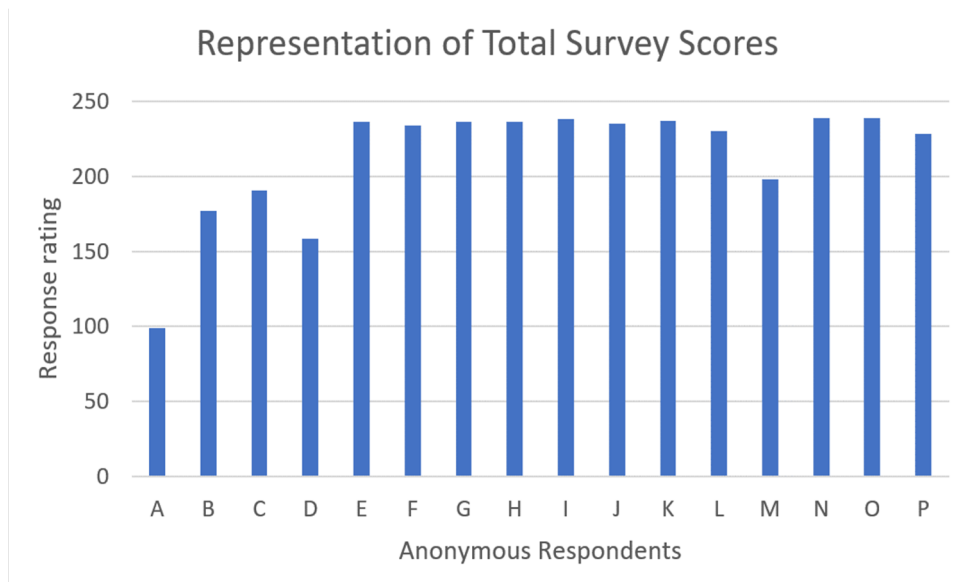
Figure 2 - Representation of Survey Scores

The purview of this research is limited to white-collar teams and not blue-collar teams. It would be interesting to study the impact of morale on blue-collar teams. With sole consideration given only to output work hours, blue-collar roles form a larger section of the industry and economy in general. Though with the limited scope of this research, no results are included from blue-collar backgrounds. Furthermore, as white-collar jobs are usually responsible for upstream activities that influence and impact the outcomes of blue-collar jobs, a broader focus may be unnecessary.

To avoid any bias creeping into the responses, the participants were not informed about the topic of the research. They were only requested to answer a few questions on the nature of the teams they work with. This reduced the possibility of the participants considering certain scenarios and the background of the questionnaire and conditioning their responses accordingly. The blind nature of the questionnaire ensured that there would be as little bias as possible in the responses and that the participants evaluated the questions independently without any considerations to the nature of the questions.

The second part of the survey was based on the results of the projects the participants worked on. This survey was not included in the initial survey to avoid the participants drawing conclusions regarding the nature of the research and establishing any connections between the two surveys.
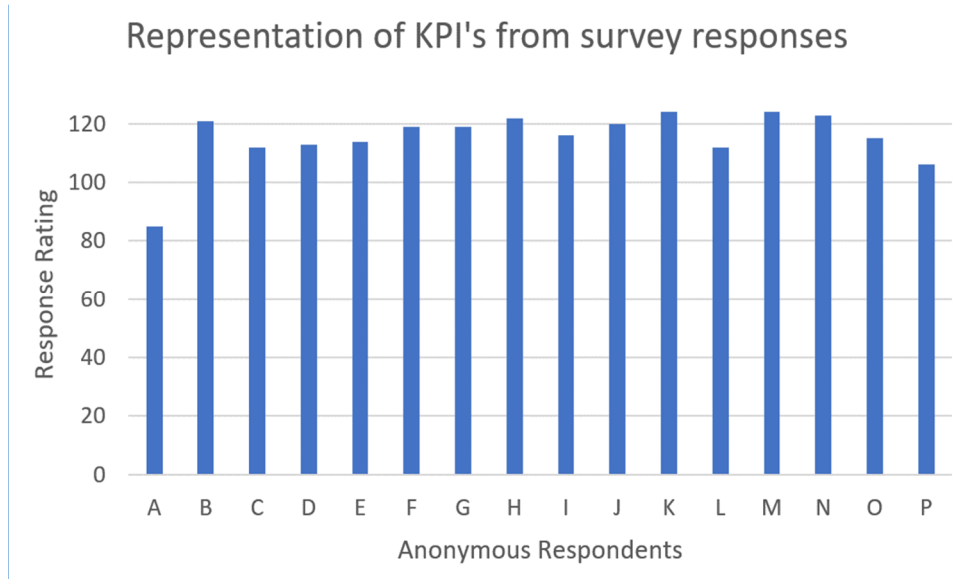

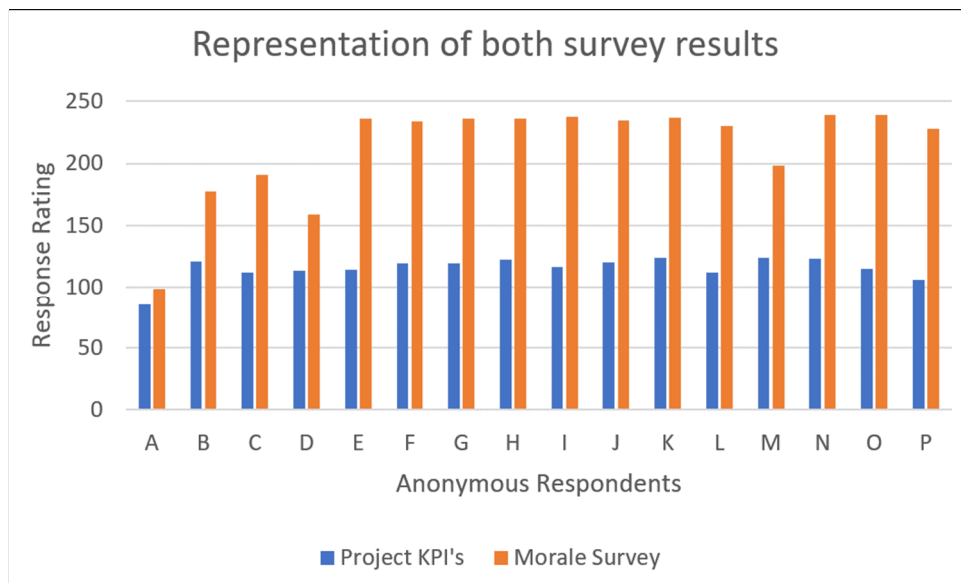**Figure 3 - Project KPI's based on survey responses**

Figure 4 - Representation of both survey results

Figure 4 shows both survey results together. Certain project parameters can be affected even in a team of high morale. A highly complex project is expected to have a longer than average schedule and poor initial quality results. The consideration of factor beyond morale is not a part of this research and this can prevent us from getting a comprehensive response to our question.

The questionnaire was developed with due consideration to the dictionary definition of morale highlighted in the paper. The questions focused on the general sense of dedication the respondents felt towards their work. This was ascertained by asking questions closely related to interest in tasks, attitude towards work, and their personal commitment to completing goals. For example, questions such as their track record when following company rules and reporting to work on time was listed. This was covered in question #22. The respondent's dedication to their work was also discussed in other questions those on their perception of the company atmosphere and how they felt they were treated. This study involved a total of sixteen participants. Ideally, a larger group would be preferable with more participation from a wider audience belonging to various sectors. This way a diverse set of opinions is available. However, in this scenario the clear majority of respondents were from the construction sector.

The majority of the respondents answered positively to the various questions. If someone has a positive disposition towards their work and workplace in general, a score of 200 points or greater was noted. Only one respondent had a total score below 100 with four respondents scoring between 150 to 200. The background of the workers was varied and ranged from middle management to young professionals just starting out in the industry.

The question that received the lowest mean score was question #18 of Table 1. The question was about the alignment of company directives and policies with company actions. This trend in responses is not entirely surprising as it is often hard to ensure that company communication is

completely in sync with company actions. Company communication can range from formal press releases to informal office grapevine. It may be easy to deal with official communication as this is released in a controlled and organized manner. The individuals who work on official company press releases are often trained professionals in corporate communications who have experience dealing with the intent of messages. They are also adept at understanding how different word choices are viewed differently by a particular audience.

However, informal communication is not easy to control. This is often determined by company managers and staff in general. To control this means to control the discipline of several employees. This is no lean undertaking. Rather than controlling the message put forth by individual employees and managers, the company must focus on hiring the right people. This will help in improving the probability of the company message not being held hostage by a few loosely conveyed messages.

Question #3 of Table 1 received the highest score from the respondents. This question was based on the score the participants gave to their relationship with their coworkers. A reason for this could be the fact that workers usually spend a lot of time with their coworkers and tend to develop a rapport with them. Also, in cases where individuals are unhappy with the company and company management, they form a closer bond with their peers and coworkers.

Figure 4 focuses on the relation between the two sets of surveys highlighted in Table 1 and Table 2. For both surveys, the respondent ratings as a percentage of total rating possible was studied. All scores with their percentages are shown in Table 3. Among the 16 responses it was noted that 12 sets of survey responses had a percentage score difference of 10% or lower. Of these, six respondents had an inter-survey percentage difference of less than five percent. Among the remaining four scores, the percentage difference varied from sixteen percent to twenty-six percent.

Table 3 - Survey Ratings and Percentage scores

Respondents	Morale Survey Rating	Project KPI's Rating	Morale Survey % Score	Project KPI's % Score	% Difference
A	98.5	85	39%	65%	26%
B	177	121	71%	93%	22%
C	190.5	112	76%	86%	10%
D	158.5	113	63%	87%	24%
E	236	114	94%	88%	7%
F	234	119	94%	92%	2%
G	236	119	94%	92%	3%
H	236	122	94%	94%	1%
I	238	116	95%	89%	6%
J	235	120	94%	92%	2%
K	237	124	95%	95%	1%
L	230	112	92%	86%	6%
M	198	124	79%	95%	16%
N	239	123	96%	95%	1%
O	239	115	96%	88%	7%
P	228	106	91%	82%	10%

Of the four sets of survey responses that showed a divergence greater than ten percent, it was noted that three sets had a low morale score but high project KPI score. This could be the only anomalies in the survey responses. In these three cases, the morale survey scores were 71%, 63%, and 79%, of total score, with the project KPI scores listed at 93%, 87%, and 95%, or total score, respectively. In these cases, there was a disconnect between the perception of project morale and the outcome of the projects.

This disconnect could be due to a variety of reasons including the fact that the projects and companies in these examples had better processes in place for work management. The implementation of these processes probably did not extend to the management of employee morale. Alternatively, it could be possible that the survey was taken during a stage of the project when the respondents were not feeling positively about their workplace.

With the data point available to this research team and the fact that this research is the result of only one survey, it is hard to conclusively determine the actual reason of the cause of the disconnect. It can be for a variety of reasons, some of which could be beyond the scope of this research.

The survey included in Table 2 focuses primarily on the project KPI's. These KPI's were determined based on the main areas a construction project is reviewed on. Construction projects are primarily focused on cost, schedule, and quality. However, in recent years safety has also emerged as a very important consideration in the assessment of project outcomes. Companies that are successful financially can still be denied work opportunities based on their safety performance.

Of the responses collected in survey two, it was observed that the schedule factors were the ones with the highest scores. These were consistent across all respondents. It is important for construction projects to be completed on time but this is often not the rule but the exception. These results are outliers in terms of project outcomes as schedules are notorious for slipping beyond promised completion date.

The KPI's with the lowest scores were the costs section. Among this, the direct costs were found to have the lowest score. This is probably due to the fact when projects are on schedule, the costs do tend to increase. All scores for schedule in the surveys were found to be high assuming an on-time delivery. It is not possible to ensure that all KPI's are on track with project management specialists always drawing analogies of a tripod table when describing the KPI's of cost, schedule, and quality. It is not possible to ensure all three of them stay on track and within the planned limits.

The correlation coefficient between the morale ratings and the projects KPI's was calculated as shown in Figure 5. The correlation coefficient was found to be 0.6925 indicating a positive correlation between morale and project performance. With increasing morale, it was found

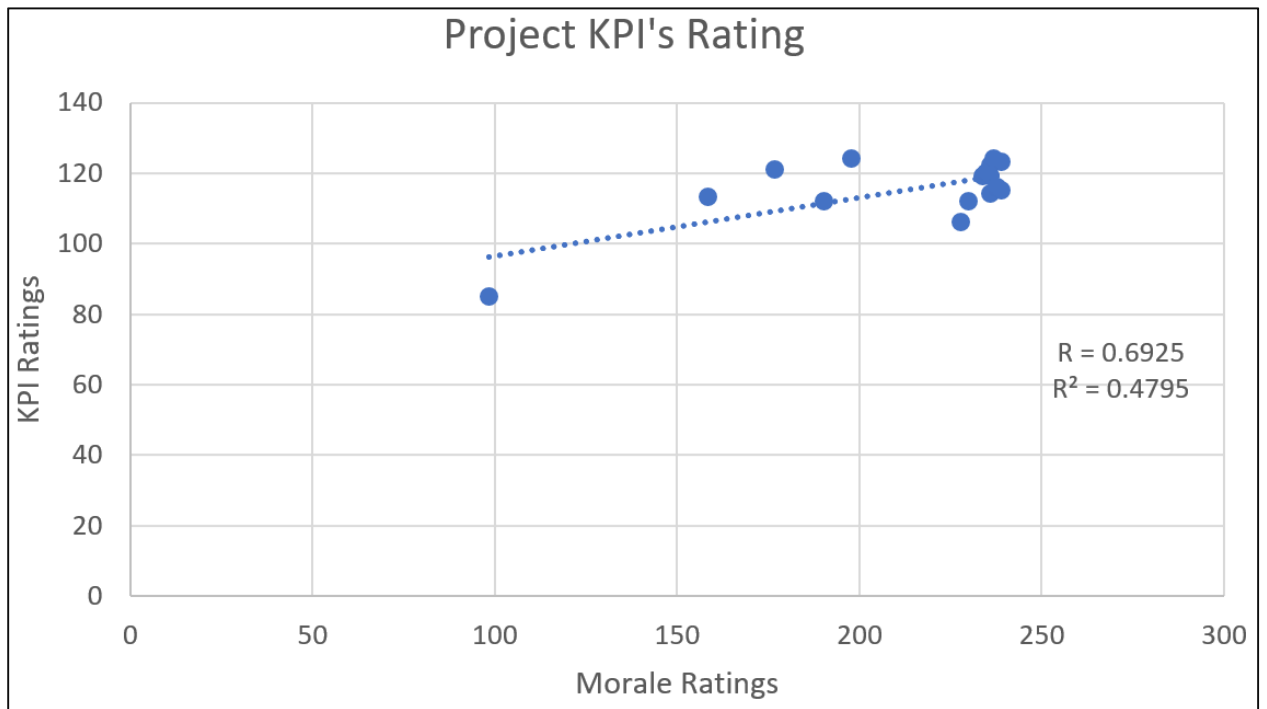that project performance also improves resulting in better cost, schedule, safety, and quality outputs.

Figure 5 - Correlation between Morale and KPI ratings

Conclusions

Following the work carried out and the results of the surveys, it was found that project performance is positively correlated with morale. Higher scores on the morale survey had corresponding higher scores on the KPI surveys. Both surveys were sent separately to the participants to avoid the creep of bias into the results. The results clearly showed a positive correlation between project performance and morale.

Morale is a well-researched subject in project management, behavioral psychology, and organizational performance circles. During this research, papers were reviewed from diverse sources such as the construction industry in Australia and China, the National Health Service (NHS) of UK, and the United States military. Morale is an important factor in team performance and merits further study and research. Organizations that rely on the cohesive working of diverse teams in short-term project settings must invest in ensuring the betterment of their workers to capitalize on the benefits of improved morale (Bowles & Cooper, 2009).

This research described in this paper is limited in scope. The study of morale can be made more robust with a broader analysis of more data from a wider audience. Industry research groups are better suited for such studies with access to more case studies. Organizations with a large workforce are also in a better position to implement such studies through employee surveys and blind surveys where questions of morale are intermixed with questions pertaining to other themes.

This paper sets the stage for the collection of more data to establish a wider study into the influence of morale on team performance. A longitudinal study can be established to study the effects of morale over project team performance over the years for multiple projects. Using the findings from early projects, improvements can be used on another project downstream. The research that this paper is based on is not set for a longitudinal study. A longitudinal study is better

suited for a n institution that has a long-term intent on studying morale and how it impacts workforce productivity.

Another challenge for the study of morale is the difficulties in isolating it as a factor affecting productivity. Productivity is impacted by several factors, some of which may be external to the workplace. Negative morale or factors that affect morale adversely do not affect all people the same way. Some individuals are better suited to deal with ambiguous situations and poor communication from management. This can also lead to different results in the study of morale.

The results obtained through the survey that formed a part of this research undoubtedly shows that morale and productivity are interconnected with a greater sense of positive morale positively impacting productivity. This information may seem obvious but the fact that morale is often overlooked as a factor when considering productivity underscores the importance of continuing research into morale and how people are affected by it. Another important consideration when reviewing the interaction between morale and productivity is necessity to adopt a balanced approach. Project management outcomes are affected by both people based and process based management techniques, with the most successful project managers in a Chinese study showing a balance of both techniques (Yang, Liu, & Fellows, 2010).

Excessive focus on morale building and improving working conditions may dilute the team and organization focus away from process enhancing measures that ensure work is performed in a methodical manner with due consideration to process and delivering quality results. A sense of competition and eagerness must be fostered to encourage workers to deliver superlative results and accomplish company goals.

This study solely focused on the study of morale based on the dictionary definition of the term. However, a study of the work processes in the organizations surveyed could give a broader

understanding of the factors impacting the work process. Other aspects to consider are the role of communication in improving morale and other such secondary factors that build a sense of positive morale or the lack of which leads to a deteriorating morale.

Another area in which the study can grow is the difference in the impact of morale improvement measures as promoted by management as opposed to by peers. The effect of peer based initiatives and encouragement from one's team mates is viewed differently than that of initiatives that are viewed as "management" priorities. Due to the top-down approach of most organizations, management actions may still be viewed as "directives" as opposed to requests or suggestions. Whereas recommendations from peers are viewed as something the audience may choose to not comply with. This makes the impact of peer promoted initiatives more acceptable and welcoming. This research did not investigate this distinction but this would definitely be a logical way forward to understand the impact of different actions on morale.

Giving the worker a voice through feedback processes has proven to be an effective method of improving morale but this must be studied more closely (McKnight, Ahmad, & Schroeder, 2001). In certain situations, providing incentives and bonuses may not benefit morale to the extent management expect. This could lead to wasted opportunities and poor allocation of resources. To avoid such occurrences, it is important to establish a feedback loop with employees and make sure that their voices are being heard. Better communication has shown to improve morale and improve results (Leighton Group, 2010). Establishing open lines of communication and organizing events where employees can interact freely with management are important to fostering an atmosphere where employees feel that their voices are heard and respected.

The question of improving productivity will remain an enduring one with countless studies to follow. It is an important part of organizations and national wellness. People spend a large part

of their lives at work and it is important to understand what drives them in order to make their

working lives more rewarding and fruitful. Morale is one aspect of teamwork that should not be

underestimated but at the same time addressed in a balanced and educated manner.

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