THE INTERACTION BETWEEN LEADERSHIP STYLES AND MANAGEMENT LEVEL, AND THEIR IMPACT ON PROJECT SUCCESS

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Leadership is the catalyst which ignites collaboration and participation towards achieving project success. Recent studies have acknowledged that leadership affect construction project success indirectly. However, how this success derived through leadership is directly related to management seniority remains unexplored. It is hypothesized that the higher a person advances in an organization the need to become more effective in achieving project success increases. To test this hypothesis and to improve project success rates, leadership at different managerial levels is explored through a case study using Kurt Lewin's and Multifactor Leadership (ML) questionnaires. The democratic and transformational styles of leadership were the most efficient in achieving project success. However, analysis of variance (ANOVA) revealed there is no significant relationship between project success and leadership style but there exists a strong association between management level and leadership style and a significant relationship between management level and project success. This suggest there is a maturity in leadership style as management level progresses, as such, a person should become more effective in guaranteeing project success based on how far they have progressed in the management structure of their organization.

Keywords: Critical success factors, Project management, Organization, Construction.

1   INTRODUCTION

Within project management based government organizations effective leadership continues to be a long standing problem which is evidenced by both project cost and time overruns as well as an abundance of incomplete projects. Leadership is the individual influence on a group to move towards and ultimately reaching a common goal (Northouse 2010). Leadership is concerned with what people are thinking and feeling and how they are to be interconnected to the environment, to the entity and to the job (Nicholls 1987). It therefore serves as a catalyst which ignites collaboration and participation towards project success. The link between leadership and success has been drawn by Mills (2005) who noted that the absence of leadership causes organizations to be stagnant. Leadership plays an important role within management in maximizing efficiency and achieving the organizations goals and is crucial in implementing decisions successfully (Mills 2005). The outcome of good leadership is amplified by the project manager's understanding of alternative leadership approaches and his ability to exercise them (Gehring 2007).

Though leadership has been described as one of the most important aspects of management Weihrich *et al.* (2008), it is rarely directly included as a project success factor. However, many

articles support the theory that leadership influences the performance of project (Jiang 2014). Though leadership styles have been widely researched, very minimal work has been done regarding the impact of leadership styles on project success within the construction management field (Turner and Muller 2005). Further, context is not pervasive, as such, leadership studies in different environment could prove useful in its understanding.

The aim of this research is to advance knowledge of leadership styles particularly within the context of its effect on or interaction with project completion and management level. Although project success is often measured by considering cost and time overruns, this study seeks to use a more general unit of measurement, project completion. Project completion for the purposes of this study will refer to buildings where all scheduled works have been completed and as such the building is fit for occupation.

2 HOW LEADERSHIP STYLES INFLUENCES OUTCOMES

Lewin *et al.* (1939) identified three leadership styles formulated around decision making. The three leadership styles which were identified are autocratic (authoritarian), democratic (participative) and laissez-faire (delegative). The authoritarian leader does not consult any team members when making a decision (Dessler and Starke 2004). This style has the advantage of quick decision making in times of stress and solid deadlines for completion of task set by the leader. However, the downside of utilizing such a style is that it stifles creativity with respect to problem solving which ultimately decreases the performance of the group; it also leads to resentment among team members and towards the leader which may result in rebellion or high staff turnover (Lewin *et al.* 1939). The democratic type of leader customarily consults his team members and considers their suggestions although the final decision lies with the leader (Dessler and Starke 2004). The pros and cons of using this participative leadership style include higher quality of work produced although the quantity of work is decreased, and commitment to the goals as there is a sense of ownership and a valued feeling of being a part of the team (Lewin *et al.* 1939). The laissez-faire style attracts leaders that are comfortable with having minimum input in the decision making although they may still be responsible for the outcome of the decision made (Dessler and Starke 2004). This leadership style allows for the development of critical thinking skills as well as group problem solving (Dessler and Starke 2004). However, in the absence of highly qualified and effective participants the utilization of this style leads to lack of control in productivity, increased costs, and failure to meet deadlines (Lewin *et al.* 1939).

The theory of the transformational and transactional leadership was first published in 1978 by J.M. Burns and was later expanded upon by Bass (1985). Burns (1978) defines transformational leaders as having the ability to direct positive changes in a team by motivating the members to be effective and efficient. This leader is vision oriented and as such focuses on the long term goals. One of the cons of this leadership style is that it requires the leader to be surrounded by reliable, qualified personnel to take care of the minor details or the project might fail. The transformational leader expresses his personal beliefs and value system and takes special interest in the development of the team members individually which results in an overall more cohesive team with performance achievements above expectations (Bass 1985). Studies conducted by Fiol *et al.* (1999) and Lowe *et al.* (1996) concluded that leaders which utilize the transformational style are seen as more effective by subordinates and superiors. Alternatively, transactional leaders offer rewards to others in return for their adherence (Sims and Yun 2009). Transactional leaders focus on management tasks and do not identify a shared vision for the team (Giltinane 2013). These leaders are not focused on encouraging change but in ensuring that things remain the same (Odumeru and Ifeanyi 2013). This leadership style is present in construction contractual

agreements; monetary rewards for work done, and as such it represents the traditional view on leadership (Thite 2001). The downsides of utilizing this leadership style is that it prevents both the leader and the follower from achieving their full potential as it does not allow for creativity, it is impersonal and focuses on the organization rather than the individual and as such results in high staff turnover (Bass 1985). Rules, processes and standards are crucial to the transactional leadership style and as such it is effective when the problems are simple and clearly defined (Bass 1985, Higgs and Dulewicz 2004). The converse of these relationships with respect to transformational leadership style holds (Turner and Muller 2005).

These two perspectives presented on leadership styles Lewin *et al.* (1939) and Bass (1985) indicates the leadership styles should be adjusted to the circumstance. Whether or not there is a dominant style associated with successful senior or junior managers remains unknown (Giritli 2008). This is explored in this paper.

3   METHOD

The target population for this case study was personnel directly involved in the leadership of construction projects and as such the leadership styles they exhibited and how this directly affects project success at each managerial level was investigated. The size of the target population is twenty-seven (27) and consisting of site supervisors, project managers, senior project managers, and divisional managers. Use of a standardize instrument should produce standardize and reliable results (Fiery 2008). The questionnaire consisted of thirty-six (36) leadership questions combined from Kurt Lewin Leadership styles as used by Northouse (2010) and the Multifactor Leadership Questionnaire MLQ developed by Bass and Avolio (1989). The number of projects completed in the last five (5) years as well as the democratic characteristics of the respondents were captured. The responses to the questions were measured on a five point Likert scale varying from strongly disagree (1) to strongly agree (5). Project performance efficiency score were determined in increment of 25 from 0 to 100. Where 0-25 represented low and 76-100 excellent. Where 0-25 suggest 25% of projects are usually completed using the particular style.

Statistical Package for the Social Sciences (SPSS) Software was used to analyze the collected data. One of the assumptions of the One-way ANOVA test is that homogeneity of variances exists across all groups and this was tested using Levene's Statistic. In this instance the null hypothesis assumes that the variances are equal. $P > 0.05$ was used for the retention of the null hypothesis and for indicating satisfaction of the homogeneity condition. The Chi-square test was used to determine if any relationship existed between the management level and the leadership style exhibited. The strength of this association was then further tested by using the Cramer's V test. Morgan *et al.* (2013) states that a Cramer's V value closer to 1 or -1 is indicative of a strong association, while 0 represents no relation.

4   RESULTS AND DISCUSSION

4.1   Leadership Styles and Project Completion

The results confirmed that all five leadership styles were present within the construction project management company. The results identify the most dominant leadership style as the democratic style which accounted for 33% of the sample population followed by transformational leadership which accounted for 26% of the population. The least popular leadership style was the laissez-faire which only accounted for a total of 8 % of the sample population. The autocratic and transactional leadership style accounted for 11% and 22% of the respondents respectively.

Turner and Muller (2005) advocated the direct measurement of leadership style and project success. The results indicate that the democratic leadership group has the highest mean project success score of 66 followed by the transformational leadership style with a mean score of 65. The autocratic leadership style had the lowest mean success score of 40. The One-way ANOVA tests whether or not a relationship exists between the leadership styles and project completion. The results showed that $p > 0.05$ indicating there is no significant relationship existing between the project completion scores and the leadership styles of the project personnel, as such, no further statistical testing was done.

4.2   Leadership Style and Efficiency

On average each leadership style efficiency was calculated by the amount of project successfully completed using a particular style. While democratic was the most dominant, in relation to the efficiency greater than 75%, there was a tie between the democratic and transformational leadership styles. This finding is supported by Blaskovics (2014) who found that the scores relating to organizational success and transformational score was above fifty percent. The results also showed that both the democratic and transformational leadership styles did not have any scores falling within the poor project success category which in this instance mirrors the conclusion that they are the most effective leadership styles. These styles can be used interchangeably as they have similar characteristics such as they both encourage the leader to consider the opinions of the followers and involving them as part of the decision making process, ultimately motivating them to ensure that the project succeeds. In addition to the relevant technical competencies when hiring new staff, the company should evaluate person's leadership style and hire personnel who display these characteristic leadership styles.

4.3   Management Level and Leadership Style

The results showed that 33%, 30% and 37% of the sample is accounted for by lower, intermediate and upper management levels respectively. Using the likelihood ratio and $p \leq 0.05$ Chi-square test indicated that there is strong association between leadership style and management level the test results showed a Crammer's V value of 0.611. The results also show that all of the autocratic leaders fall into the lower management levels while the transformational leadership style was the only one which appeared at all levels of management. This result is supported by Buble *et al.* (2014) which concluded that the autocratic leadership style often falls into the lower management levels. In particular, it should be noted that the democratic and transformational leadership styles, which were identified as the most effective management styles were also the most frequent styles displayed at the upper management level. This further reiterates the need for the project management personnel to be trained with the characteristics of the democratic and transformational leadership style in order for them to excel and increase the company's project success rate. The distribution of the leadership styles in the three management levels may also suggest that with experience the leadership styles of individuals evolve as the autocratic leadership style was only found in the lower level management with poor success ratings.

4.4   Management Level and Project Success

The One-way ANOVA tested at a significance of $p < 0.05$ shows that there is significant difference between project success scores and management level. The partial Eta squared showed that 63.3% of the between subjects' variance is accounted for by management level suggesting that management level has a strong effect on the project success scores. The power

value statistic is more than 0.8 therefore the sample size is large enough to detect the effects being analyzed. Post hoc tests were then performed to establish the nature of these interactions and it was discovered that from the lower to the intermediate management level the mean project success scores increased and from the intermediate to the upper management level the mean project success scores further increased; therefore, as the management level increases so too does the mean project success score. This relationship may signify that the more experienced personnel achieve greater success with project completion. A high level of interaction among all management levels is recommended, this can be used to impart the knowledge based on experience from the upper management level to the two lower levels. Formal interactive sessions should be held among all the management levels so that the upper management can have a collective idea of the needs of the less experienced staff in terms of knowledge and guidance. A pairing of the upper management level with staff of the lower and intermediate management levels to enable them to better impart their knowledge.

5   CONCLUSION

A good leader should be able to utilize leadership styles complementary with the varying nature of projects they are presented with. This research showed no significant association between the style of leadership and the project success rate within the case study company. However, the democratic and transformational leadership styles were more prominent among successful project leaders. This may be due to external factors such as age, size of project and years of management experience which were not taken into consideration for this research. Another factor which was not considered for this study is the effect the upper management has on the lower and intermediate management levels in relation to decision making for projects. The results achieved from this research concurs with Morris (1988) who pointed out that although leadership style isn't a critical success factor it influences all if not most of the project success factor and as such indirectly affects the project success.

As the management level increases so too does the project success scores. While there is difficulty in finding previous research which analyses this relationship, it is unlikely that the respondents at the upper management level have attained these senior positions without themselves showing their ability to perform. Therefore, it maybe that with age and experience the leader has managed to refine his project approach to produce consistent project success ratings. This trend of increased project success climbing the management level suggests that the project managers within this company are rewarded for any consistent project success scores with promotions. While this is perfectly fine, when one gets to the upper management level they should have the maturity based on knowledge gained along the journey to the top to understand that the company cannot succeed, flourish or even remain operational for an extensive period of time if this knowledge is not passed on to persons on the lower levels of management. However, for this to be achieved their leadership skills would have to be sufficiently matured to display somewhat of a transformational or democratic leadership style to elicit that drive to achieve consistent project success.

There is a significant lack of literature pertaining to the relationship between management level and project success and since the results concluded that there is a significant relationship between the two, it is recommended that further research be done to investigate the nature of this relationship and the factors which influence it as it can contribute to the overall success of organizations.

References

Bass, B. M., and Avolio, B. J., *Manual for the Multifactor Leadership Questionnaire*, Consulting Psychologists Press, CA, 1989.

Bass, B. M., *Leadership and Performance Beyond Expectation*. Free Press, New York, 1985.

Blaskovics, B., Impact of leadership Styles on Project Success - The Case of a Multinational Company. *Dynamic Relationships Management Journal,* 3(2), 21-36, 2014.

Buble, M., Juras, A. and Matić, I., The Relationship between Manager's Leadership Styles and Motivation. *Management*, 14(1), 161-193, 2014.

Burns, J.M., *Leadership.* Harper & Row, New York, 1978.

Dessler, G., and Starke, F. A., *Management: Principles and Practices for Tomorrow's Leaders*. Pearson Education Canada Inc., Toronto, Ontario, 2004

Fiery, B. M., *Contextual Influences Affecting Transformational Leadership in Northwest Virginia Multiple Nonprofit Hospital Systems*. PhD Dissertation, University of Phoenix, 2008.

Fiol, C. M., Harris, D. and House, R. J., Charismatic Leadership: Strategies for Effecting Social Change. *Leadership Quarterly*, 10(3), 449–482, 1999.

Gehring, D. R. Applying Traits Theory of Leadership to Project Management, *Project Management Journal*, 38(1), 44-54, 2007.

Giltinane, C. L., Leadership Styles and Theories, *Nursing standard*, 27(41), 35-39, 2013.

Giritli, H, and Civan, I., Personality Study of Construction Professionals in the Turkish Construction Industry, *Journal of Construction Engineering and Management*, 134 (8), 630–634, 2008.

Higgs, M. J., and Dulewicz, S. V., Design of a New Instrument to Assess Leadership Dimensions and Styles. *Selection and Development Review*, 20(2), 7–12, 2004.

Jiang, J., The Study of the Relationship between Leadership Style and Project Success, *American Journal of Trade and Policy*, 1(1), 51-55, 2014.

Lewin, K., Lippitt, R. and White, R. K., Patterns of Aggressive Behavior in Experimentally Created Social Climates, *Journal of Social Psychology*, 10(2), 271-301, 1939.

Lowe, K.B., Kroek, G.K. and Sivasubramaniam, N. Effectiveness correlates of transformational and transactional leadership: a meta-analytic review of the MLQ literature. *Leadership Quarterly*, 7(3) 385–425, 1996.

Mills, D. Q., *Leadership: How to Lead, How to Live*. Mind Edge Press, Waltham, MA. 2005.

Morgan, G. A., Nancy L. L., Gene W. G., and Barrett, K. C. *IBM SPSS for Introductory Statistics: Use and Interpretation,* Routledge, New York, 2013.

Morris, P. W. G. *Managing Project Interfaces. In Project Management Handbook,* Cleland, D. I. and King, W. R. (ed.), 479-512, Project Management Institute, New York, 1988.

Nicholls, J., Leadership in Organisations: Meta, Macro and Micro. *European Journal of Management* 6(1), 16-25,1987.

Northouse, P., *Leadership: Theory and Practice,* Sage Publications, Los Angeles, 2010.

Odumeru, J. A, and Ifeanyi, G.O. Transformational vs. Transactional Leadership Theories: Evidence in Literature. *International Review of Management and Business Research*, 2(2), 355-361, 2013.

Sims, H.P., and Yun, S. When Should a Leader Be Directive or Empowering? How to Develop Your Own Situational Theory of Leadership, *Business Horizons,* 52 (2), 149-158, 2009.

Thite, M. Leadership Styles in Information Technology Project, *International Journal of Project Management*, 18(4), 235–24, 2001.

Turner, J.R., and Muller, R., The Project Manager's Leadership Style as a Success Factor on Projects: A Literature Review, *Project Management Journal*, 36(2), 49-61, 2005.

Weihrich, H., Cannice, M.V. and Koontz, H. *Management*. 12th, Mc Graw Hill, New Delhi, 2008.