



Leadership Style of Construction Project Managers in Ghana

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Abstract

The construction sector differs from other industries as a result of its extraordinary attributes. Besides, every infrastructure project comprises diverse professionals and firms that meet up to accomplish explicit undertaking within a specified period. Leadership could increase productivity in construction project delivery, where competence, success, and additional work is expected to be part of the result. This research sought to assess the leadership styles of Ghanaian Construction Project Managers- CPMs in comparison with those of their expatriate (foreign construction project managers) counterparts by means of Fielder's Least Preferred Co- manager worker (LPC) scale. Twenty (20) Ghanaian CPMs as well as twenty (20) expatriate CPMs were selected, but in total, thirty (31) CPMs participated in this study. Findings from the research indicated that, the Ghanaian CPM were found to be relationship-oriented than their foreign counterparts. The foreign CPM were found to be more socio-independent. Further findings on the actual leadership style of the CPMs showed no major leadership style within the construction space in Ghana, although the participative and directive styles were increasingly common. The result implies that though the leadership style of both respondents is different, the difference is not significant.

Keywords: Construction Industry; Ghana; Leadership Style; Project Managers; Construction Project Managers

1.0 Introduction

Within the construction sector, a Project Manager (PM) is viewed as a leader because the PM has the power to allot work packages to team members and to settle on significant choices during project delivery. Subsequently, the PM for the most part assumes responsibility for all

issues of every construction undertaking. Ahadzie et al. (2008) established a nexus between project leadership style and accomplishing successful project delivery. It is also established that the PM had about forty-seven percent of direct impact on the success of every project (Frank, 2002). Hence, PMs assume an essential function in the success of every project (Owusu-Manu et al., 2021; Turner and Müller 2005).

According to Liphadzi, Aigbavboa and Thwalla (2015), Project managers have their own way of managing projects and this is influenced heavily by their style of leadership. Largely, project managers have varied styles of leadership, and the style of leadership adopted can either adversely or optimistically influence the performance of the project. According to Edum-Fotwe and McCaffer (2000) and Odusami (2002), leadership is perceived as one of the fundamental aptitudes of PMs. Additionally, Hwang and Ng (2013) also posited that the situation is the same for construction undertakings.

The Ghanaian construction sector is huge and considered as one of the predominant driving forces of the economy. The industry is multidimensional, physically widespread and permeates all other divisions of the economy including structures, streets, dams and extensions (Ofori, 2012). According to the Ghana statistical service (GSS) from 2016 to 2017, construction contributed 13.7% to Gross domestic product (GDP) in Ghana. It is one of the fastest growing sub sectors of the Ghanaian economy. The GSS data also indicated that the industry employed not less than three percent of the labour force in Ghana. The construction division in Ghana holds tremendous potential for animating development and offering employment. The industry is critical and has a solid reverse and forward development linkages (Osei, 2013).

Eyiah (2004) opined that the Ghanaian construction sector is extremely essential since infrastructural amenities needed for better standards of living are comparatively underprovided. Therefore, it is very important to focus on the leadership abilities of professionals who directly manage the individual projects within the industry since it can collectively go a long way to affect the contribution of the industry.

The Ghanaian construction industry over the past decade has been inundated with expatriate project managers who are competing with their Ghanaian counterparts. Nevertheless, no

study has focused on investigating into the leadership styles of Ghanaian Construction Project Managers and their expatriate counterparts, thus, there is a dearth of literature on this subject. The findings of this study provide the two group of PMs with the strengths and weaknesses of each other, to which they can learn from. This research sought to bridge this gap by investigating the style of leadership of the two (2) group of PMs within the construction industry in Ghana.

To achieve the objective of this current study, two (2) styles of leadership measurement tools are utilized. The first is Fiedler's Least Preferred Co-laborer (LPC) scale, which comes with the benefit of being a popular and very much utilized scale, thus outcomes can be contrasted with previous research. An individual's LPC result is explained by Fiedler to be an invariant individual attribute, thus, if one wishes to investigate the impact of a circumstance on style of leadership, a different tool should be utilized. Thus, a different measurement scale, based on "House's grid", is additionally used to examine changes in leadership behaviour style at various phases of an undertaking. The two (2) measurement scales are discussed thoroughly in the subsequent sections of this paper. To lay the right foundation for this paper, the accompanying areas depict the Leadership qualities of PMs in Ghana.

1.1 Leadership Styles Within the Construction Sector

Even though various research works have been carried out on styles of leadership, it has mostly lean towards the manufacturing sector which is depicted by organizations that are permanent in nature. There is a dearth of literature on styles of leadership within the construction sector. This is because of an appreciation of the nature of the construction sector and its inherent complexities by social science researchers and a deficiency of knowledge of social science research by construction professionals (Langford et al., 1995).

According to Harvey and Ashworth (1993), leadership styles in the construction sector are unique in the sense that the sector possesses attributes that distinguishes itself from all other sectors. These attributes include contractual measures; environmental issues; life cycle of the project; project attributes amongst others. Every infrastructure project is made of a large group of associations coming together for a common objective. Besides, a host of professionals from various firms are assembled within a particular timeframe to accomplish a definite undertaking.

The individual professionals and groups are discharged after accomplishing the objectives of the project. The projectized nature of the industry coupled with its temporal multiple organizations will affect the management and styles of leadership of experts operating in the construction sector (Xie et al., 2018).

In several project settings, there is a high inclination for "democratic participative" style of leadership, though, it might not be the best for all situations (Agbozo, 2018; Heslin and Keating, 2017; and Giritli and Oraz, 2004). Cleland (1995) contended that the leadership style adopted for a particular project must suit the conditions of the project since leadership is an incessant and adaptable process. According to Naum (2001), mega projects with high budgets coupled with a convolution of decisions to make requires varied styles of leadership. Naum (2001) however, concedes that a "participative" leadership style with bureaucratic firm is likely to be more suitable than a "directive" style of leadership. Conversely, Nicholas (1990) posited that less participating but rather more directive style of leadership may be appropriate in a situation where the project has delayed and there is immense pressure to complete the project within time.

Another aspect that can influence the leadership style of building projects is the extensive use of subcontractors. The proportion of subcontracting versus direct labor employment on project sites, according to Naum (2001), is the link between procurement method and leadership style. Bresnen et al. (1986) found that task-oriented forms of leadership are more appropriate in situations where subcontract labor makes up most of the workforce. Additionally, different leadership styles are required at different stages of the project life cycle by construction experts. The temporary nature of project cycles, according to Bresnen et al. (1986), may have an impact on our understanding of construction leadership and its effects.

As the project proceeds through its life cycle, the leadership style changes. Styles may need to allow for more arguments, fine-tuning, and consideration as the design process progresses. They may, however, be more regimented and dominant throughout the construction period. They may need to be firm, direct, and even dictatorial during a concrete pour in severe conditions. They may need to be innovative and conciliatory in resolving issues (Hopper, 1990). Similarly, the environment in which leadership is practiced has an impact on the

leadership style of those who work in construction management jobs (Dartey-Baah and Addo, 2018). For example, the situation of the labor market – particularly the degree of unemployment – has a significant impact on managerial style. Because of the high unemployment rate, employees have less negotiating power and may be forced to accept whatever leadership style management chooses. This allows leaders to adopt more authoritarian leadership approaches.

To summarize, determining the best appropriate leadership style for each situation in the development of a project is tough. 'Leaders may thus have to transition from one style of leadership to another or combine components of multiple types until the correct balance between worries for tasks and concerns for people is achieved,' Naum (2001, p. 223) says. As a result, persons working in the construction management process should be able to demonstrate a variety of leadership behaviors.

1.2 Construction Project Managers' Leadership Styles and Their Impact on Project Performance

Numerous research works in the field of project management have looked into the relationship between project managers' leadership style and project success (Novo, Landis, and Haley, 2017). Turner and M€uller (2005) conducted a comprehensive literature study and identified project managers' leadership as a key determinant in project success. Turner and M€uller (200) used a mixed method approach (quantitative and qualitative) to determine the impact of project managers' leadership style on project success and discovered that different leadership styles were appropriate for different project types. Odusami et al. (2003) found a link between project managers' leadership styles and project performance in the Nigerian construction industry. Mustapha and Naoum (1998) found a substantial association between site managers' intended management styles and their level of effectiveness. The importance of building project managers' leadership has also been recognized by academia. The effect of construction project managers' leadership style on their sense of project success was studied by Lee-Kelley and Leong (2003). Furthermore, according to a questionnaire survey conducted by Geoghegan and Dulewicz (2008), project managers' management competency leadership aspects have a considerable impact on project success. In the Thai construction business, Ozorhon et al. (2008) supported transformational leadership and found that project managers' transformational leadership style was favorably associated with subordinates' work

performance. Increases in project managers' leadership improved connections among team members in the Taiwanese construction industry, according to Yang et al. (2011), while teamwork was positively associated to project performance and success.

1.3 Measurement Instruments

Fiedler was the first to design a contingency leadership style concept. In terms of the control a leader has over situations, he stressed the effectiveness of leadership style and group performance. Fiedler concludes that the individual's basic leadership style is the most important component in leadership effectiveness. As a result, the Least Preferred Co-worker (LPC) questionnaire was developed to investigate this leadership style.

Fiedler's LPC scale assesses how favorably or unfavorably a person described his or her least preferred coworker. Leaders are asked to think about one person in their lives with whom they would have the most difficulty working (their least desired coworker) and then describe that individual using an 8-point, bi-polar adjective scale. The questionnaire includes 18 comparative adjectives such as jovial-solemn, kind-unkind, easy to get along with. This survey was created to elicit feedback from employees of their managers and leaders. The LPC score is now interpreted by Fiedler and Garcia (1987) as a motivational hierarchy, showing the degree to which an individual places a higher priority or value on task completion (low-LPC) or maintaining strong interpersonal ties (high-LPC) (high-LPC). A high LPC score, according to Fiedler (1978), identifies a person whose primary concern and priority is the development and maintenance of positive interpersonal relationships; a low LPC score, on the other hand, identifies a person whose primary concern and priority is the completion of the task or the acquisition of tangible evidence of his or her own competence. 'Socio-independent' leaders have LPC scores in the middle. They have a lower level of involvement with their superiors or subordinates, as well as with how their personality affects others. They are less emotionally invested in their jobs, allowing them to gain more from training and experience (Fiedler, 1967).

Because Fiedler (1967) states that "a person's leadership style reflects the individual's basic motivational and need structure," and Bryman (1987) states that "Fiedler sees a

person's score as an invariant personal characteristic," the LPC score is taken here as reflecting an individual's preferred leadership style.

Despite the multiple criticisms of Fiedler's LPC scale, the scale was used in this survey to measure the preferred leadership styles of construction project managers for a variety of reasons. It is a well-known and commonly used scale; the results may be compared to those of other studies; it avoids direct questions about the leader's personal behavior, so implicit leadership theories are mostly eliminated; and it avoids direct questions about the leader's personal behavior. For convenience of comparison with other studies, the 16-item form of the measure was employed. For a 16-item scale, according to Fiedler (1967) and Fiedler and Chemers (1984). Appendix 1 contains the questionnaire that was used.

2.0 Methodology

This study followed a quantitative research approach since it is epistemologically directed primarily by positivistic ideas. According to Toor and Ofori (2008), in the construction sector, leadership research is primarily conducted through quantitative approaches such as questionnaire surveys.

The study focused on two types of managers: Ghanaian construction project managers and expatriate construction project managers. Civil engineers made up most of the responders. From a list of government contracts under the Ministry of Roads and Highways, projects ranging from Ghc 5 to 45 million were chosen for the Ghanaian project managers whereas projects ranging from Ghc 10 to 95 million were chosen for the expatriate project managers. This decision was taken since it was evident that the cost of most of the projects managed by the expatriate PMs were higher than that of their Ghanaian counterparts. Stratified sampling was adopted to select the respondents for the study. Each respondent was approached directly for the selected projects to determine whether they had been with the project for the most of its existence and thus could provide meaningful responses to the questions. In all, 20 Ghanaian PMs and 20 expatriate PMs were selected and accepted to participate in this research. The respondents were chosen at random, but clearly depended on their willingness to comply in filling out a lengthy questionnaire.

The data was collected using Fielder's Least Preferred Co-Manager Worker (LPC) questionnaire with little modification to suit the Ghanaian situation. Thirty-one (31) complete sets of questionnaires were returned out of a total of forty (40), with a response rate of 78 percent. To create the summary of the various responses, the data was analyzed using descriptive statistics with using Microsoft Excel.

3.0 Results

3.1 Preferred leadership style

When the effects of situational variables are considered, an individual's preferred leadership is defined as the habitual and preferred style of leadership that one would choose to adopt.

3.1.1 Ghanaian Construction Project Managers

The LPC results of the Ghanaian construction project managers in the construction business are spread across the spectrum, with considerable frequencies at higher scores (Max. = 110, Min. = 38, Mean= 66.32, and S.D. = 18.02; see Figure 1).

The sample's mean LPC score is near the bottom of the high LPC (relationship-oriented) range. When compared to other LPC scores, it is much higher than those reported by Bresnen et al. (1986, Mean=55.03), Bryman et al. (1987, Mean=55.46), Quinless (1986, Mean= 56.80), and Rowlinson et al. (1993, Mean= 63.59). The disparities can be traced back to cultural variations between Ghanaian and Western societies, at least in part.

In contrast, the dispersion in Figure 1 reveals that the bulk (10) of the scores are in the relationship-motivated range, with three (3) in the task-motivated range and three in the socio-independent range. The high mean score is due to eight scores of 75 or higher. As a result, the relationship- motivated range is evident in the sample of Ghanaian construction project managers.

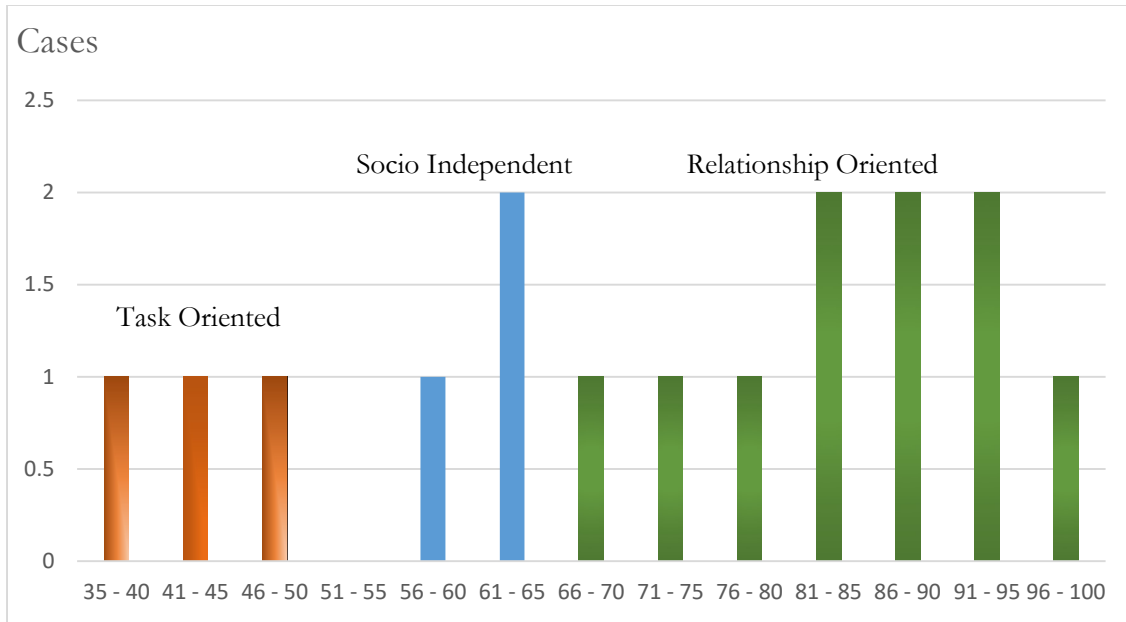


Figure 1: *LPC Scores of Ghanaian Project Managers*

3.1.2 Expatriate Construction Project Managers

As shown in Figure 2, the LPC results of the sample of foreign construction project managers in Ghana's construction industry are concentrated above the middle of the range. The study's LPC scores vary from 34 to 102, with an average of 60.14 and a standard deviation of 17.04. According to the study sample's average LPC score, expatriate project managers and project leaders in Ghana are generally socio-independent, with few being relationship-motivated or task-motivated.

When compared to the average LPC scores for other occupational samples (as given in Table 1), this score is comparable to those found by Bresnen et al. (1986, Mean=55.03), Bryman et al. (1987, Mean= 55.46), and Quinless (1986, Average= 58.50).

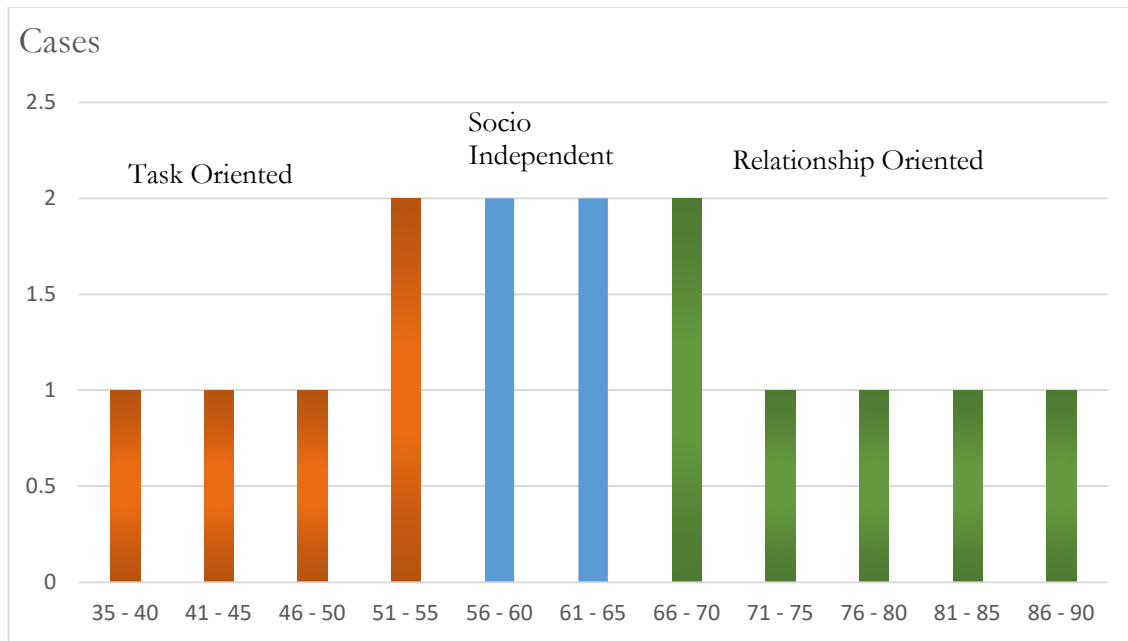


Figure 2: *LPC Scores of Expatriate Project Managers*

Table 1: *Average LPC scores for a range of occupational samples*

Occupational Samples	Average
Second level manager, Iran	84.03
Head Nurses, U.S. & Canadian	71.82
Second level managers, U.S	63.47
Civil service engineers, U S	60.44
Design Team Leaders	58.50
National Guard senior officers. U.S	56.97
Construction Managers	56.80
Construction site managers, UK	55.46
Construction site managers, U.K.	55.03
Company Commanders, US Army	53.62
Administrators, City Treasury Office, US	46.22

Source: Rowlinson, 1993

The high score indicates that Ghanaian project managers in the construction business may have a proclivity for forming and maintaining tight working connections. They may be more concerned with achieving a happy working environment and less

emotionally invested in task completion. The importance of social peace is a common occurrence in Ghanaian society.

3.2 *Actual leadership style*

The actual leadership style employed by the leader was determined in order to explore how situational variables influence the normal leadership style of the leader. The survey classified actual leadership styles as directive, supportive, participative, and achievement-oriented (Rowlinson, 1993).

3.2.1 *Ghanaian Construction Project Managers*

In the local construction industry, no dominant leadership style was discovered, albeit participative and supporting leadership styles were more prominent (see Table 2). Only four of the 16 managers used a single leadership style, and eight of them used more than two of the four leadership types, according to a more extensive study of their responses. As a result, Ghanaian project managers in the local construction industry appear to be able to adapt a variety of techniques to meet the needs of specific projects or employees.

Table 2: *Actual Leadership style of Ghanaian Project Managers*

Orientation Style used	Achievement	Participative	Supportive	Directive
Primary Style	2	6	5	3
Secondary Style	3	7	4	2
Total recorded	5	13	9	5

3.2.2 *Expatriate Construction Project Managers*

In each stage of the project, most expatriate construction project managers used at least two different management styles (a primary and a secondary style). They do, however, seem to favor the achievement and directive approaches (see Table 3). Only two of the 15 managers used a single leadership style, and ten (10) of them used more than two of the four leadership styles, according to a more extensive study of their

responses. As a result, expatriate project managers in the local construction industry, like their indigenous counterparts, use a range of techniques to fit unique project or personnel demands.

Table 3: *Actual Leadership style of Expatriate Project Managers*

Orientation Style used	Achievement	Participative	Supportive	Directive
Primary Style	6	3	2	4
Secondary Style	7	4	2	2
Total recorded	13	7	4	6

4.0 Discussion of results

Ghanaian project managers appear to be more relationship-oriented than their expatriate counterparts in the local construction business. Cultural differences may be to blame for this uniqueness. In Ghanaian society, societal harmony is viewed as a significant standard for achieving economic and social goals. As a result, indigenous project managers are trained to be sensitive to the sensitivities of others, particularly those with whom they work. Their preferred and typical leadership style expresses their desire to achieve and maintain solid personal relationships. Nonetheless, the example LPC scores show that a variety of techniques are employed.

The concept of 'saving face' and the attribute of communalism in Ghanaian society make managers and leaders more sensitive to others' sentiments and allow them to repress their directive behavior. Ghanaian managers are more relationship-oriented than their expatriate colleagues and are more concerned with maintaining excellent personal relationships and a pleasant working environment as a result of these cultural features. In their study, Rowlinson et al. (1993) discovered this among Chinese project managers. Furthermore, due to the nature of their training, expatriate managers tend to adopt a much more open style of leadership.

5.0 Conclusion

With the preferred leadership style, Ghanaian project managers and project leaders have a reputation for being relationship-oriented, whilst their expatriate colleagues have a reputation for being socio-independent. Their management approach places less emphasis on task completion. The indigenous project managers in Ghana had higher LPC ratings than their expatriate colleagues, indicating that indigenous project managers in Ghana are more concerned with preserving excellent connections and a pleasant working environment. According to Rowlinson et al. (1993), site managers place a stronger focus on task than other leaders. More research is needed to determine whether this is a widespread trend among executives in temporary companies.

The vastly higher LPC score observed in Ghana when compared to earlier research in other countries can be related to cultural differences between Ghanaian and Western societies, specifically the communalism attribute and the concept of 'face saving.' Leaders become more sensitive to others' sentiments and their directive behavior is subdued as a result of this. To execute the task, indigenous project managers in Ghana rely more on personal relationships with the group.

With regards to the actual leadership style of the two groups, according to the survey's findings, project managers use a variety of leadership styles, which can be attributed to the various settings in which they find themselves. The Ghanaian Construction Industry's indigenous project managers, on average, utilize a participative style as their primary style and a supportive style as their secondary style. These findings corroborate the previously established leadership styles in general.

In terms of expatriate project managers, achievement-oriented and directive styles are the most popular leadership styles utilized in managing Ghanaian construction projects, with supporting and participative styles being used as secondary styles. The variety of leadership styles employed could imply that Ghanaian project managers are capable of adapting to various task requirements.

The study uncovered some fascinating and surprising findings, including the fact that Ghanaian project managers are more relationship-oriented than their expatriate counterparts. This discovery necessitates further examination.

The study made both theoretical and practical contributions to the leadership style of CPMs discourse by unearthing the difference in leadership style of both expatriate and Ghanaian CPMs. The outcome of this research fills the gap in research in Ghana and provide CPMs and industry professionals with the strength and weaknesses of the leadership style of the two group of CPMs. The findings of the study have further refuted the general perception within the Ghanaian construction industry that the leadership style of Ghanaian CPMs is different from that of their expatriate counterparts.

References

- Agbozo, R.E. (2018). *Leadership Styles, Perceived Organisational Politics and Employees' Work Engagement Evidence from Indigenous Ghanaian Banks*, Doctoral dissertation, University of Ghana.
- Ahadzie DK, Proverbs DG, and Olomolaiye P. (2008). 'Towards developing competency-based measures for construction project managers: Should contextual behaviours be distinguished from task behaviours?' *International Journal of Project Management*, 26:631 - 645.
- Anaman, K.A. and Osei-Amponsah, C. (2007). Analysis of the causality links between the growth of the construction industry and the growth of the macro-economy in Ghana, *Construction Management and Economics*, 25:9, 951-961.
- Bresnen, M.J., Bryman, A.E., Ford, J.R., Beardsworth, A.D. and Keil, E.T. (1986). Leadership orientation of construction site managers, *Journal of Construction Engineering and Management*, ASCE, 112 (3), Paper 20886, pp. 370--86.
- Bryman, A., Bresnen, M.J., Ford, J.R., Beardsworth, A.D. and Keil, E.T. (1987). Leader orientation and organisational transience: an investigation using Fiedler's LPC Scale, *Journal of Occupational Psychology*, 60, pp. 13-19.
- Cleland, D.I.(1995). *Project Management: Strategic Design and Implementation*, 2nd edn, McGraw Hill, New York.
- Dartey-Baah, K. and Addo, S.A. (2018). Charismatic and corrective leadership dimensions as antecedents of employee safety behaviours: A structural model. *Leadership & Organization Development Journal*, Vol. 39 Issue 2, pg.186-201.
- Edum-Fotwe F, and McCaffer R. (2000). Developing project management competency: perspectives from the construction industry. *International Journal of Project Management*, 18:111-124.

- Eyiah, A. (2004). Regulation and small contractor development: a case of Ghana. Working Paper, Centre on Regulation and Competition, University of Manchester
- Fiedler, F.E. and Garcia, J.E. (1987). *New Approaches to Effective Leadership*, John Wiley & Sons, Inc.
- Fiedler, F.E. and Chemers, M.M. (1984) *Improving Leadership Effectiveness: The Leader Match Concept*, 2nd ed., Wiley.
- Fiedler, F.E. (1978). The Contingency Model and the dynamics of the leadership process, *Advances in Experimental Psychology*, 11, pp. 59-112.
- Fiedler F. E. (1967). *A theory of leadership effectiveness*. McGraw Hill, New York.
- Frank T. (2002). The superior project manager. New York: Marcel Dekker.
- Geoghegan L, and Dulewicz V. (2008). Do project managers' leadership competencies contribute to project success? *Project Management Journal* 39:58 - 67.
- Ghana Statistical Service (2013). Provisional Gross Domestic Product 2013, Ghana Statistical Service, Accra-Ghana, September.
- Harvey, R.C. and Ashworth, A. (1993). The construction industry of Great Britain, Butterworth-Heinemann.
- Heslin, P. A. and Keating, L. (2017). In Learning Mode? The Role of Mindsets in Derailing and Enabling Experimental Leadership Development. *The Leadership Quarterly* Vol. 28 Issue 3, pg.367-384.
- Hopper, J.R. (1990). Human factors of project organization. *A Report to the University of Texas*, Construction Industry Institute, Austin, TX.
- Hwang BG, and Ng WJ. (2013). Project management knowledge and skills for green construction: overcoming challenges. *International Journal of Project Management*. 31:272 - 284.
- Langford, D., Fellows, R.F., Hancock, M. and Gale, A.W. (1995). *Human Resources Management in Construction*, Longman Scientific and Technical, Essex.
- Lee-Kelley L, and Leong L. (2003). Turner's five-functions of project-based management and situational leadership in IT services projects. *International Journal of Project Management*. 21:583 - 591.
- Liphadzi, M., Aigbavboa, C., and Thwala, W. (2015). Relationship Between Leadership Styles and Project Success in the South Africa Construction Industry, *Procedia Engineering*, Volume 123, 2015, Pages 284-290,
- Mustapha F, and Naoum S. (1998). Factors influencing the effectiveness of construction site managers. *International Journal of Project Management*. 16:1 - 8.
- Naum, S. (2001). *People & Organizational Management in Construction*, Thomas Telford, London.
- Nicholas J.M. (1990). *Managing Business and Engineering Projects-Concepts and Implementation*, Prentice Hall, New Jersey.
- Novo, B., Landis, E. A., and Haley, M. L. (2017). Leadership and its role in the success of project management. *Journal of Leadership, Accountability and Ethics*, Vol. 14 Issue 1.
- Odusami K. (2002). Perceptions of construction professionals concerning important skills of effective project leaders. *Journal of Management Eng.* 18:61 - 67.

- Odusami KT, Iyagba R. R. O., and Omirin M. M. (2003). The relationship between project leadership, team composition and construction project performance in Nigeria. *International Journal of Project Management*. 21:519 - 527.
- Ofori, G. (2012), Developing the Construction Industry in Ghana: The Case for a Central Agency, National University of Singapore, Singapore, available at: www.ghanatrade.gov.gh/file/Developing%20the%20Construction%20Industry%20in%20Ghana%20BUILDING.pdf (accessed December 30, 2021).
- Osei, V. (2013), "The construction industry and its linkages to the Ghanaian economy-polices to improve the sectors performance", European Center for Research Training and Development, UK, Kent, p. 56, available at: www.eajournals.org/wp-content/uploads/THE-CONSTRUCTIONINDUSTRY-AND-ITS-LINKAGES-TO-THE-GHANAIAN.pdf (accessed December 30, 2021).
- Owusu-Manu, D.-G., Debrah, C., Amisah, L., Edwards, D.J. and Chileshe, N. (2021), "Exploring the linkages between project managers' mindset behaviour and project leadership style in the Ghanaian construction industry", *Engineering, Construction and Architectural Management*, Vol. 28 No. 9, pp. 2690-2711. <https://doi.org/10.1108/ECAM-03-2020-0149>
- Ozorhon B., Arditi D., Dikmen I., and Birgonul, M. T. (2008). Implications of culture in the performance of international construction joint ventures. *Journal of Construction Engineering and Management*, 134:361 - 370.
- Quinless, P. C. (1986). Leadership styles in the construction industry: An empirical examination of Handy's 'Best fit' concept, M.Sc Dissertation, Brunei University, Uxbridge, London.
- Rowlinson, S., Ho, T.K.K., and Po-Hung, Y. (1993). Leadership style of construction managers in Hong Kong, *Construction Management and Economics* (1993) 11, 455-465.
- Toor, S.R. and Ofori, G. (2008). "Leadership for future construction industry: agenda for authentic leadership", *International Journal of Project Management*, Vol. 26 No. 6, pp. 620-630.
- Turner J. R., and McEuler R. (2005). The project manager's leadership style as a success factor on projects: a literature review. *Project Management Journal*. 36:49 - 61.
- Xie, Y., Xue, W., Li, L., Wang, A., Chen, Y., Zheng, Q., Wang, Y. and Li, X. (2018). Leadership style and innovation atmosphere in enterprises: An empirical study. *Technological Forecasting and Social Change*.
- Yang L. R., Huang C. F., and Wu K. S. (2011). The association among project manager's leadership style, teamwork and project success. *International Journal of Project Management*. 29:258 - 267.

Appendix 1

Think of the person with whom you can work least well. He or she may be someone you work with now or may be someone you knew in the past. He or she does not have to be the person you like least well but should be the person with whom you had the most difficulty in getting a job done. Describe this person as he or she appears to you.

	8	7	6	5	4	3	2	1
Pleasant								Unpleasant
	8	7	6	5	4	3	2	1
Friendly								Unfriendly
	8	7	6	5	4	3	2	1

Rejecting									Accepting	
	8	7	6	5	4	3	2	1		
Helpful									Frustrating	
	8	7	6	5	4	3	2	1		
Unenthusiastic									Enthusiastic	
	8	7	6	5	4	3	2	1		
Tense									Relaxed	
	8	7	6	5	4	3	2	1		
Distant									Close	
	8	7	6	5	4	3	2	1		
Cold									Warm	
	8	7	6	5	4	3	2	1		
Cooperative									Uncooperative	
		8	7	6	5	4	3	2	1	
Supporting									Hostile	
		8	7	6	5	4	3	2	1	
Boring									Interesting	
		8	7	6	5	4	3	2	1	
Quarrelsome									Harmonious	
			8	7	6	5	4	3	2	
Self-assured										Hesitant
			8	7	6	5	4	3	2	1
Efficient										Inefficient
			8	7	6	5	4	3	2	1
Gloomy										Cheerful
			8	7	6	5	4	3	2	1
Open										Guarded

Below are four sets of four statements, each expressing a way in which you may generally have gone about managing your subordinates' work on this project. For each set, will you say which you think is the closest description of what you have done.

1

- (a) I try to get my subordinates to assume full personal responsibility for their work.
- (b) I try to give my subordinates firm guidance and clear instructions wherever I can.
- (c) I try to leave options as often as possible and try to get serious and useful suggestions from my subordinates.
- (d) I try to be as friendly and approachable to my subordinates as possible.

2

- (a) I try to let my subordinates know exactly what is expected of them, to reduce any margin of error.
- (b) I try to ask subordinates their opinions before putting plans into action.
- (c) I try to make my subordinates as satisfied as possible with their work.
- (d) I try to get my subordinates to be as committed to their work as I am.

3

- (a) I try to make my subordinates' work as clearly defined and specified as possible.
- (b) I try to be as fair and equal as I can in my dealings with subordinates.
- (c) I try to motivate my subordinates to perform as well as possible.
- (d) I try to get my subordinates to offer suggestions for improvement in work

methods

4.

- (a) I expect my subordinates to achieve as high a level of performance as possible.
- (b) I want subordinates to feel that they can come to me with their personal problems.
- (c) I try to get my subordinates work as well organized as possible.
- (d) I try to take into account serious and useful suggestions for improvement or change in methods.