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Construction Workers' Behaviour: Case Study of Ghanaian Construction Industry

Zakari Mustapha[1*], Benjamin Boahene Akomah[1], Chris K. Tieru[1], Ankor Franklin Kuuso[1]

[1] *Department of Construction Technology and Management, School of Built and Natural Environment, Cape Coast Technical University, Cape Coast, Ghana*

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ABSTRACT

Many construction industries suffer from the consequences of employee behaviour. Human factors increase efficiency and performance in the construction industry, leading to project success. The completion time of projects, within approved costs, and the required quality are important to employers. This study examined the factors that influence employee behaviour among construction professionals (quantity surveyors, structural engineers, and architects) at construction sites within the Cape Coast North Metropolis in the Central Region of Ghana. A survey was used to collect data from 120 construction professionals. Out of 120 questionnaires administered among construction employees,96 questionnaires were returned, and this represents 80% of the response rate. The findings show that motivation, incentive programs, recognition, leadership style, and safety measures affect employee behaviour at construction sites. The study concludes that employers should be motivated, and competent supervisors should be employed to manage the site. Safety measures should be prioritised for on-site employers. It is recommended that these factors be seriously considered to achieve productivity.

INTRODUCTION

Modern workplaces demand adaptable and innovative employees to thrive (Lau, 2017), and employee performance is a cornerstone of organisational success (Mesiya, 2019). The connection between employee behaviour and company outcomes is particularly pronounced in the construction industry. (Othman et al., 2019) found that construction firms can leverage positive employee behaviour to gain a competitive advantage in the market. This resonates with broader research demonstrating the link between employee

[1*] Corresponding author. *E-mail address*: mustapha.zakari@cctu.edu.gh
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emotions and organisational performance across industries, underscoring the workforce's critical role in achieving success (Jiang et al., 2012).

However, these challenges persist in the future (Allam, 2017) highlights the detrimental impact of lacklustre effort on an organisation's potential to flourish. In the construction sector, (Prabhu, 2013) emphasised that variations in workforce productivity can ripple through the national economy. Prabhu also noted the importance of human factors in project success, aligning with the notion that construction productivity hinges on employees' efforts and performance. (Akomah et al., 2020) further emphasise the industry's reliance on a skilled workforce to drive production and maintain a competitive edge.

The influence of negative employee emotions was also notable. (Azoury et al., 2013) found that actively disengaged employees, who are often dissatisfied with their work, can spread discontent and hinder productivity. This finding underscores the need for effective leadership. (Rahmi, 2020) posited that influential leaders provide direction, encouragement, and control, which are vital for achieving organisational goals.

To address these multifaceted factors, this study examines the influences on employee behaviour among construction professionals (Quantity surveyors, Structural engineers, and Architects) at construction sites within the Cape Coast North Metropolis in the Central Region of Ghana. The following sections explore the interplay between motivation, job satisfaction, leadership behaviour, and safety measures in shaping employee performance within this context.

LITERATURE REVIEW

Background of the Study

The Ghanaian construction industry plays a crucial role in national development and employs a significant workforce. Within the Cape Coast North Metropolis, this workforce includes many professionals such as quantity surveyors, structural engineers, and architects. Records from the Ghana Social Opportunity Project (GSOP) show that there are 920 professionals involved in labour-intensive work on road infrastructure, which is a significant portion of the workforce dedicated to such projects (Bamfo-Agyei et al., 2023; Bamfo-Agyei et al., 2022). Recent data from the Ghana Statistical Service (2023) indicates that these professionals comprise approximately 420,000 people of the total construction workforce in the region (International Trade Administration, 2023). However, despite their importance, the productivity levels of these professionals have been a growing concern. (Kinradew et al., 2022) revealed that project delays and cost overruns, often attributed to suboptimal professional performance, are prevalent in the region. Similarly, a 2022 World Bank report revealed that Ghana's construction productivity is approximately 30% lower than the average for sub-Saharan Africa (World Bank Group, 2022). This underscores the need to investigate the factors influencing their behaviour and identify strategies to enhance their productivity. Professional employees in the construction industry, such as quantity surveyors, structural engineers, and architects, play pivotal roles in project success because of their specialised knowledge and skills (Leung et al., 2024). Research indicates that stressors, job overload, and poor work environments can affect organisational commitment and job satisfaction (Leung et al., 2024). Additionally, this study highlights the importance of effective management control measures in influencing safety professionals' work attitudes, including affective commitment and intention to quit (Ju et al., 2024). Furthermore, understanding the motivational factors perceived by the construction industry workforce, such as job satisfaction, achievement of potential, and recognition, is crucial for enhancing performance and productivity (Amoah & Van Niekerk, 2023). Organisations can better address these professionals' behaviour, motivation, job satisfaction, and safety adherence by investigating these aspects, ultimately improving project outcomes.

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Motivation and its Effects on Construction employee's performance

Employee motivation significantly affects work behaviour (Siregar, 2019). Construction companies must pay attention to employees' needs and expectations, talents and skills, and how they execute their tasks (Pancasila et al., 2020). Motivation positively and significantly affects employee performance (Pancasila et al., 2020). Work motivation is the direction of power and potential of subordinates to be willing to work together productively and successfully in achieving and realising the goals that have been determined by the organisation (Lecturer, 2018). Wang et al. (2016) argue that motivation is a personal condition in a person that encourages an individual's desire to carry out certain activities to achieve their goals. Employees who fully utilise their talent perform better in organisations and individuals because they view things from diverse perspectives. This helps them acquire new knowledge and abilities because of their employers' motivation (Abidin et al., 2019). Pragiwani et al. (2018), Kariuki & Murimi (2015), and Arifin (2020) assert that empowerment has a significant effect on employee performance. Empowerment enables employees to participate in decision-making and helps them escape their stagnant mindset to take risks and try something new. Employees who experience a strong sense of empowerment possess traits that help them to perform successfully in the workplace and advance their careers.

The Relationship between work motivation and job satisfaction

Employees' needs and expectations, talents and skills, and how they plan future tasks are the responsibilities of employers to achieve site productivity (Newstrom, 2014). Alnıaçık et al. (2012) assert that career motivation positively correlates with job satisfaction and organisational commitment. (Anghelache, 2015) posits a lack of correlation between motivation and job satisfaction. (Araslı & Saydam, 2014) found a significant positive correlation between intrinsic motivation and job satisfaction. Job satisfaction commonly reflects employees' positive affective reactions to their jobs (Rahiman & Kodikal, 2017). Motivation had a positive and significant effect on employee performance.

Leadership behaviour and its impact on employees

Leadership behaviour significantly affects employees' ability to work effectively and contributes to the development of a positive working environment (Dari et al., 2018). Leaders directly influence both individual and team performance (Othman et al., 2019). Leadership is characterised by a leader's ability to earn respect, loyalty, and cooperation (Mkheimer, 2018). Transformational leaders inspire followers to go beyond their interests and profoundly affect them (Robbins & Judge, 2017). On the other hand, transactional leaders guide and motivate followers to achieve their goals by clarifying their roles and task requirements (Robbins & Judge, 2017). Anitha et al. (2014) and Pawirosumarto et al. (2017) suggested that leadership style positively impacts employee performance. Furthermore, Audenaert et al. (2016) indicated that individual motivation is linked to employee performance management in public organisations.

Safety Measures towards employee's performance

Construction safety has consistently been a paramount concern because the construction sector is widely regarded as one of the most hazardous industrial sectors, with accident and fatality rates significantly exceeding the all-industry average (Shohet et al., 2018; Sunindijo et al., 2017). Construction organisations must take appropriate measures to balance workplace productivity and safety (Hashiguchi et al., 2020). Notably, supervisors occupy a pivotal position among the hierarchical levels of an organisation and bear the primary responsibility for shaping safety performance on construction sites (Fang et al., 2015).

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RESEARCH METHODOLOGY

This study employed structured questionnaires comprising closed- and open-ended questions administered directly to construction professionals (Quantity Surveyors, Structural Engineers, and Architects) at active construction sites within Cape Coast North Metropolis Ghana. While the initial data collection focused on the Cape Coast North Metropolis, efforts were made to extend the study's reach and ensure a broader representation. This was achieved by targeting construction firms operating across different regions of Ghana, thereby capturing a diverse sample of professionals and practices.

The participants were randomly selected from a pool of supervisors and artisans employed by these construction firms. To qualify, individuals needed at least one year of experience in their respective fields to ensure a baseline level of knowledge and expertise. The randomisation process involved assigning unique identifiers to potential participants and using a random number generator to determine the final sample (Kim & Shin, 2014). This approach aims to mitigate selection bias and enhance generalisability.

Of the 120 distributed questionnaires, 112 were returned. These were meticulously screened to maintain the data quality. Questionnaires with unanswered questions, incomplete responses, or inconsistent answers (e.g. multiple selections for single-choice questions) were excluded. This rigorous screening process resulted in a final sample size of 96 questionnaires that were suitable for analysis.

Statistical analysis was conducted using the Statistical Package for the Social Sciences (SPSS) software version 28 (IBM Corp, 2021). Descriptive statistics, including mean and standard deviation, were calculated to summarise the responses and identify key trends. Additionally, Relative Importance Indices (RII) were employed to assess the relative significance of the different factors identified within the questionnaire. The RII is a widely recognised statistical tool used to rank the importance of items based on respondent feedback, providing valuable insights into priorities and areas of concern within the construction industry (Azman et al., 2019).

Several measures were taken to mitigate the potential response bias. The questionnaire was designed to be concise and user friendly, minimising respondent fatigue. Participation was voluntary and anonymous, and honest responses were encouraged. While the study could not eliminate the risk of non-response bias, the high response rate (93.3%) suggests that the findings broadly represent the target population. Future research should consider expanding the geographic scope to validate the generalisability of the results.

DATA ANALYSIS AND FINDINGS

This study's demographic profile of construction professionals offers valuable insights into enhancing employee engagement strategies. The predominance of young males (85.4%) aged 18-30 (78.2%) underscores the need for engagement initiatives tailored to this demographic, potentially focusing on mentorship programs, career development opportunities, and work-life balance initiatives that appeal to younger professionals. The high proportion of bachelor's degree holders (41.7%) and Quantity Surveyors (42.7%) suggests that targeted training programs and professional development opportunities within these fields could boost job satisfaction and retention. Moreover, the finding that most professionals had between one and five years of experience (53.1%) highlights the importance of early career support and engagement. Construction firms could invest in onboarding programs, regular performance feedback, and opportunities for skill enhancement to retain valuable employees. Additionally, recognising the experience of those who have served between 6 and 10 years (31.1%) is crucial for maintaining a balanced and experienced workforce. This could involve offering leadership training, involvement in decision-making processes, and recognition of expertise. As highlighted in this study's findings, construction firms can implement targeted

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engagement strategies to improve job satisfaction, productivity, and ultimately, project success by understanding and addressing their workforce's specific needs and characteristics.

The findings in Table 1 offer valuable insights for construction firms seeking to enhance employee engagement and motivation. The strong agreement on the importance of incentives for overtime work (RII = 0.813) highlights a clear opportunity for companies to leverage monetary rewards to encourage employees to go an extra mile. This can be implemented through overtime bonuses, project completion bonuses, or other performance-based financial incentives. Similarly, the emphasis on performance-based promotions (RII = 0.777) suggests that firms should establish clear and transparent career paths tied to measurable achievements. This could involve regular performance reviews, skill development programs, and a structured promotion system that recognises and rewards individual contributions. While employees expressed satisfaction with their current allowances, the desire to recognise extra effort (RII = 0.777) underscores the importance of non-monetary rewards. Construction firms could implement employee-of-the-month programs, highlight individual achievements in company communications, or offer additional paid time for exceptional performance. Remarkably, the relatively low ranking of bonuses as a company policy (RII = 0.669) may indicate that employees value the consistency and predictability of regular incentives over less frequent and potentially larger bonuses. This could inform the design of compensation packages that prioritise regular performance-based rewards. By understanding and acting on these findings, construction firms can create a work environment that fosters motivation and engagement and improves productivity and project outcomes.

Table 1: Responses on Motivation for Employee Behaviour

Motivation for employee behaviour	**Frequencies**					**RII**	**Rank**
	SD	**D**	**N**	**A**	**SA**		
Employees should be given incentives when they perform over-time	2	3	18	37	36	**0.813**	**1st**
Extra effort by employees should be recognised	4	6	14	45	27	**0.777**	**2nd**
Employees are satisfied with their allowances	6	1	20	40	29	**0.777**	**2nd**
Promotion should be based on performance	4	6	20	33	33	**0.777**	**2nd**
Rewards should be based on performance	2	7	24	31	32	**0.775**	**5th**
Employees engagement in work activities motivates them	5	3	20	41	27	**0.771**	**6th**
Salary should be paid after work is done	5	7	20	33	31	**0.763**	**7th**
Work motivation influences Employee's performance	5	4	24	37	26	**0.756**	**8th**
Managers need to empower employees	8	4	17	46	21	**0.742**	**9th**
Employees should be given compensation when they spend overtime at work	6	7	22	36	25	**0.740**	**10th**
Training and continuous development of employees are necessary	4	7	23	42	20	**0.740**	**10th**
Equal opportunities should be given to all employees	8	5	21	38	24	**0.735**	**12th**
Performance appraisal should be done for all employees	5	7	26	40	18	**0.723**	**13th**
My company provides fair promotion opportunities	11	11	22	35	17	**0.675**	**14th**

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Bonuses should not be part of the company policy	12	17	17	26	24	**0.669**	**15th**

Note: RII – Related Importance Index

Source: Author's 2025

The findings from Table 2 underscore the critical role that leadership communication plays in shaping employee behaviour and performance within construction firms. Notably, the highest mean score (3.958) pertained to supervisors' desire for regular and encouraging communication, highlighting the importance of transparent and supportive communication channels. Supervisors should prioritise frequent employee interactions, offer constructive feedback, recognise achievements, and foster an environment where employees feel heard and valued. Furthermore, the second-highest mean score (3.948) emphasises the significance of leadership style in directly impacting employee performance. Construction firms can leverage this insight by investing in leadership development programmes that equip supervisors with effective communication and interpersonal skills. These programs should emphasise the importance of setting clear expectations, providing guidance and mentorship, and empowering employees to take ownership of their tasks. Construction firms can enhance productivity and project outcomes by cultivating a leadership style that inspires and motivates them. The third highest mean score (3.917) pertains to employees' perception of being encouraged to offer suggestions for management. This finding suggests that employees value opportunities to contribute insights and ideas to decision making. Construction firms can capitalise on this by establishing formal feedback mechanisms, such as regular suggestion boxes or employee forums, where individuals can share their perspectives on project management, safety protocols, and process optimisation. By actively soliciting employee input, construction firms can tap into valuable sources of knowledge and innovation, leading to improved operational efficiency and employee engagement. Conversely, the lowest mean score (3.365) relates to employees' perceptions of being held accountable for their decisions. This finding indicates a potential area for improvement in construction firms. To address this, organisations should establish clear performance expectations and accountability frameworks. This can involve setting measurable goals, providing regular performance reviews, and recognising employees who consistently demonstrate responsibility and initiative. By fostering a culture of accountability, construction firms can empower employees to assume ownership of their roles and contribute to a high-performance work environment.

Table 2: Responses on leadership style for employee behaviour

Leadership style for employee behaviour	**Frequencies**					**M**	**SD**	**RANK**
	SD	**D**	**N**	**A**	**SA**			
Employees want frequent and supportive communication from their supervisors	5	4	16	36	35	**3.958**	**1.085**	**1st**
Leadership style affects the performance of Employees	6	3	19	30	38	**3.948**	**1.137**	**2nd**
Management looks to me for suggestions and leadership	8	7	25	31	25	**3.917**	**3.417**	**3rd**
My manager puts corporation benefits above personal benefits	6	3	20	38	29	**3.844**	**1.090**	**4th**
I have the opportunity to contribute to decisions that affect my career	3	8	25	37	23	**3.719**	**1.023**	**5th**
Employees are sometimes allowed to work problems out on their own	8	3	28	29	28	**3.688**	**1.173**	**6th**
Employees will exercise self-direction if they are committed to the objectives	8	5	26	33	24	**3.625**	**1.163**	**7th**

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My manager gives me the freedom to make decisions related to my task	7	10	22	40	17	**3.521**	**1.124**	**8th**
Employees feel insecure about their work and need direction	5	12	23	31	25	**3.615**	**1.155**	**9th**
Supervisors encourage me to be my best	4	11	26	32	23	**3.614**	**1.099**	**10th**
My boss is good at communicating information	6	12	27	37	14	**3.427**	**1.083**	**11th**
My manager belittles our working contributions	11	7	29	32	17	**3.385**	**1.199**	**12th**
Employees given authority to make decisions are accountable for those decisions	6	9	22	36	23	**3.365**	**1.134**	**13th**

SD – Standard deviation, M – Mean

Source: Author's 2025

Based on the findings in Table 3, it is clear that several key factors significantly influence employee safety behaviour in the construction industry. The most impactful factor, as indicated by the highest mean (4.083), provides employees with Personal Protective Equipment (PPE). This underscores the importance of investing in and enforcing PPE use to protect workers from potential hazards. Another critical element is fostering positive relationships between supervisors and subordinates. The high mean associated with this factor (4.042) suggests that a supportive and communicative work environment can encourage safer practices among employees. Construction firms should prioritise developing strong leadership skills and promoting open communication channels to cultivate such relationships. The data also highlight the importance of management's commitment to safety, as evidenced by the mean of 4.042. When management actively demonstrates a dedication to safety protocols and procedures, it sends a powerful message to employees and reinforces the importance of prioritising safety. While slightly lower in ranking, employee attention to personal safety (mean of 3.948) and the provision of appropriate safety training (mean of 3.635) remained significant factors. This indicates that individual awareness and education are crucial for promoting safe behaviour. Construction firms should invest in comprehensive safety training programs and continuously reinforce the importance of personal safety responsibility.

Table 3: Responses on safety measures for employee behaviour

Safety measures for employee behaviour	**Frequencies**					**M**	**SD**	**RANK**
	SD	**D**	**N**	**A**	**SA**			
Good relationships between supervisors and subordinates can lead to safer behaviour in the employees	1	2	21	36	36	**4.083**	**0.879**	**1st**
Provision of personal protective equipment to all employees is necessary	6	3	11	33	43	**4.083**	**1.121**	**2nd**
Management safety commitment is important	4	2	16	38	36	**4.042**	**1.004**	**3rd**
Employees pay attention to personal safety during the construction process	2	3	22	40	29	**3.948**	**0.922**	**4th**
Employees play an active role in identifying site hazards	1	4	28	32	31	**3.917**	**0.937**	**5th**

Supervisors use explanation, not compliance talk, to encourage employees to act safely	1	7	20	41	27	**3.896**	**0.934**	**6th**
Management is strict about work safety even when work falls behind schedule	2	7	24	31	32	**3.875**	**1.029**	**7th**
Employees make an initiative to comply with the safety regulations	4	1	28	34	29	**3.865**	**1.001**	**8th**
Supervisors are complementary to workers who pay special attention to safety	5	3	21	39	28	**3.854**	**1.046**	**9th**
Supervisors frequently check to see if employees follow safety rules	4	1	28	38	25	**3.823**	**0.973**	**10th**
Employees provide suggestions to improve safety circumstances during construction procedures	4	4	30	35	23	**3.719**	**1.013**	**11th**
Management ensures that employees are given appropriate safety training	3	7	30	38	18	**3.635**	**0.975**	**12th**

SD – Standard deviation, M – Mean

Source: Author's 2025

Summary of findings

This study investigated the factors influencing employee behaviour among construction professionals in Cape Coast North Metropolis. Consistent with previous research (Pancasila et al., 2020; Siregar, 2019), our findings underscore the critical role of motivation in shaping employee performance. The predominantly young male demographic (85.4%) with bachelor's degrees (41.7%) responded positively to incentives for overtime, performance-based promotions, and recognition, confirming the link between motivation and job satisfaction as explored by Alnıaçık et al. (2012) and Araslı & Saydam (2014).

Resonating the work of Dari et al. (2018) and Othman et al. (2019), leadership communication emerged as a pivotal influence on employee behaviour. Supervisors' desire for frequent, supportive communication (mean score 3.958) highlights the importance of transparent leadership styles in fostering a positive work environment. This reinforces the literature suggesting that effective leadership directly impacts individual and team performance (Robbins & Judge, 2017).

Finally, the prioritisation of personal protective equipment and positive supervisor-subordinate relationships as key safety measures resonated with the findings of Shohet et al. (2018) and Sunindijo et al. (2017), who emphasised the inherent risks of the construction industry and the need for proactive safety management. The findings of this study reinforce the notion that a multifaceted approach encompassing motivation, leadership, and safety is essential for optimising employee behaviour and, ultimately, project success in the construction sector.

CONCLUSION

This study investigates the factors influencing employee behaviour in Ghana's Cape Coast North Metropolis construction sector. These findings demonstrate that employees value incentive programs, recognition, and performance-based promotions as motivating factors. They also highlighted the importance of frequent communication, supportive supervisors, and a sense of empowerment in leadership style. Safety measures,

such as providing personal protective equipment and fostering positive supervisor-subordinate relationships, were identified as crucial. Practical Implications: Construction firms can directly apply these findings to improve their employee engagement and productivity. By implementing structured incentive programs, emphasising performance-based promotions, and fostering a culture of recognition, companies can enhance their motivation and job satisfaction. Leadership training should focus on developing transparent communication, supportive supervision, and opportunities for employee inputs. Prioritising the provision of personal protective equipment and building positive relationships between supervisors and subordinates will create a safer and more productive work environment. Improving employee behaviour in the construction sector has far-reaching social benefits. A motivated and engaged workforce is more likely to deliver projects on time and within the budget, contributing to national development goals. Enhanced safety practices protect workers' well-being and reduce accidents and injuries. The thriving construction industry also provides employment opportunities, contributing to economic growth and social stability. This study contributes to the knowledge of employee behaviour in developing countries, particularly within the construction sector. This confirms the applicability of the existing theories on motivation, leadership, and safety in the Ghanaian context. Furthermore, the findings highlight the unique challenges and opportunities faced by construction firms in this region, paving the way for further research and targeted intervention. This study focuses on the Cape Coast North Metropolis and may not fully represent the entire Ghanaian construction industry. Future research should expand the geographic scope to other regions and include a wider range of construction professionals to enhance the generalisability of the findings. Additionally, a more in-depth exploration of specific leadership styles and their impact on employee behaviour could offer practitioners more nuanced insights. Despite these limitations, this study provides a solid foundation for understanding and improving employee behaviour in the Ghanaian construction industry. These findings offer a roadmap for construction firms to create a more motivated, engaged, and safe workforce, ultimately contributing to the industry's growth and development.

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CONFLICT OF INTEREST STATEMENT

The authors agree that this research was conducted without any self-benefit commercial or financial conflicts and declare the absence of conflicting interests with the funders.

AUTHORS' CONTRIBUTIONS

Ankor Franklin Kuuso conducted the research, wrote, and revised the article. Mustapha conceptualised the central research idea and provided a theoretical framework. Zakari Mustapha and Benjamin Boahene Akomah designed and supervised the research progress. Chris Kurbom Tieru anchored the review, made revisions, approved the article submission, and completed the final review and editing for the article submission.

REFERENCES

Abidin, Z., Mintarti, S., Paminto, A., & Hidayati, T. (2019). The Effect of Empowerment and Self Efficacy as Well Person Organization Fit to Performance with Work Satisfaction as a Mediation Variable in Employees Department of Education in East Kalimantan Province, 8(07), 47–62.

Akomah, B. B., Lawson, R. W., & Jackson, E. N. (2020). Improving labour productivity in Ghanaian building construction projects. Baltic Journal of Real Estate Economics and Construction Management, 8(1), 152–169. https://doi.org/10.2478/bjreecm-2020-0011

Allam, Z. (2017). Employee Disengagement: A Fatal Consequence to Organization and its Ameliorative Measures. International Review of Management and Marketing, 7(2), 49–52.

Alnıaçık, Ü., Alnıaçık, E., Akçin, K., & Erat, S. (2012). Relationships Between Career Motivation, Affective Commitment and Job Satisfaction. Procedia - Social and Behavioral Sciences, 58, 355-362. https://doi.org/10.1016/j.sbspro.2012.09.1011

Amoah, C., & Van Niekerk, L. (2023). Workforce Motivational Factors in The Construction Industry. Proceedings of International Structural Engineering and Construction, 10(1). https://doi.org/10.14455/isec.2023.10(1).con-22

Anghelache, V. (2015). A Possible Explanatory Model for the Relationship between Teaching Motivation and Job Satisfaction. Procedia - Social and Behavioral Sciences, 180, 235-240. https://doi.org/10.1016/j.sbspro.2015.02.110

Anitha, J. (2014). "Determinants of employee engagement and their impact on employee performance", International Journal of Productivity and Performance Management, 63 (3), 308–323.

Araslı, H., Daşkın, M., & Saydam, S. (2014). Polychronicity and Intrinsic Motivation as Dispositional Determinants on Hotel Frontline Employees' Job Satisfaction: Do Control Variables Make a Difference? Procedia - Social and Behavioral Sciences, 109, 1395-1405. https://doi.org/10.1016/j.sbspro.2013.12.643

Arifin, K. (2020). Factors Influencing Employee attitudes toward Organizational Change: literature review. In Proceedings of the 5th ASEAN Conference on Psychology, Counselling, and Humanities (ACPCH 2019) (Vol. 395). Advances in Social Science, Education and Humanities Research. https://doi.org/10.2991/assehr.k.200120.039

Audenaert, M., Decramer, A., George, B., Verschuere, B., & Van Waeyenberg, T. (2016). When employee performance management affects individual innovation in public organizations: the role of consistency and LMX. The International Journal of Human Resource Management, 30(5), 815–834. https://doi.org/10.1080/09585192.2016.1239220

Azman, N. S., Ramli, M. Z., Razman, R., Zawawi, M. H., Ismail, I. N., & Isa, M. R. (2019). Relative Importance Index (RII) in ranking of quality factors on industrialised building system (IBS) projects in Malaysia. AIP Conference Proceedings. https://doi.org/10.1063/1.5118037

Azoury, A., Daou, L., & Sleiaty, F. (2013). Employee engagement in family and non- family firms. International Strategic Management Review, 1(1–2), pp. 11–29. https://doi.org/10.1016/j.ism.2013.08.002

Bamfo-Agyei, E., Thwala, D. W., & Aigbavboa, C. (2022). The effect of management control on labour productivity of labour-intensive works in Ghana. Acta Structilia, 29(1). https://doi.org/10.18820/24150487/as29i1.1

Bamfo-Agyei, E., Thwala, D.., & Aigbavboa, C. . (2023). Optimisation of labour-intensive productivity for construction projects in Ghana. Acta Structilia, 30(1), 122–154. https://doi.org/10.38140/as.v30i1.6988

Dari, T. A., Jabeen, F., & Papastathopoulos, A. (2018). Examining the role of leadership inspiration, rewards and its relationship with contribution to knowledge sharing. Journal of Workplace Learning, 30(6), 488–512. https://doi.org/10.1108/jwl-11-2017-0105

Fang, D., Wu, C. & Wu, H. (2015). Impact of the supervisor on worker safety behaviour in construction projects. Journal of Management in Engineering, 31, 1–12.

GSOP (Ghana Social Opportunities Project). 2017. Labour-intensive public works in Ghana. Ministry of Employment.

Hashiguchi, N., Cao, J., Lim, Y., Kubota, Y., Kitahara, S., Ishida, S. & Kodama, K. (2020). The effects of psychological factors on perceptions of productivity in construction sites in Japan by worker age. International journal of environmental research and public health, 17(10), 3517.

IBM Corp. Released 2021. IBM SPSS Statistics for Windows, Version 28.0. Armonk, NY: IBM Corp.

International Trade Administration. (2023, November 26). Ghana construction and infrastructure industry. International Trade Administration | Trade.gov. Retrieved July 23, 2024, from https://www.trade.gov/country-commercial-guides/ghana-construction-and-infrastructure-industry

Jiang, K., Lepak, D. P., Hu, J., & Baer, J. C. (2012).How Does Human Resource Management Influence Organizational Outcomes? A Meta-Analytic Investigation of Mediating Mechanisms. Academy of Management Journal, 55(6), 1264-1294. http://dx.doi.org/10.5465/amj.2011.0088

Ju, C., Ning, Y., & Shen, Y. (2024). How do different management control configurations influence construction safety professionals' work attitudes. Engineering Construction and Architectural Management. https://doi.org/10.1108/ecam-07-2023-0745

Kariuki, A., & Murimi, C. (2015). Employee empowerment and organizational performance of Tata Chemical Magadi Ltd, Kenya.European Journal of Business and Management, 7(8), 190-200.

Kinradewo, O., Aigbavboa, C., Oke, A., Coffie, H., & Ogunbayo, B. (2022). Unearthing Causative Factors of Cost Overrun on Ghanaian Road Projects. The Baltic Journal of Road and Bridge Engineering, 17(4), 171-188. https://doi.org/10.7250/bjrbe.2022-17.584

Kim, J., & Shin, W. (2014). How to do random allocation (Randomization). Clinics in Orthopedic Surgery, 6(1), 103. https://doi.org/10.4055/cios.2014.6.1.103

Lau, R. (2017). Expanding your skill set. BizHive Weekly

Lecturer, I. (2018). Analysis of organizational culture, competence and work motivation: The effect on satisfaction and performance of government employees of prepare. Russian Journal of Agricultural and Socio-Economic Sciences, 74(2), 148-155.

Leung, M., Ahmed, K., & Chan, I.Y. S. (2024). Impact of Stressors/Stress on organizational commitment of engineers in the construction industry. Buildings, 14(4), 956. https://doi.org/10.3390/buildings14040956

Mesiya, A. Y. (2019). Factors affecting employee performance: An investigation on private school sector. International Journal of Experiential Learning & Case Studies, 4(1), 74–91. https://doi.org/10.22555/ijelcs.v4i1.2452.g532

Mkheimer, I. (2018). Arabian Journal of Business and The Impact of Leadership Styles on Business Success: A Case Study on SMEs in Amman. Arabian Journal of Business and Management Review, 8(2).

Newstrom, J. (2014). Organizational Behavior: Human Behavior at Work. New York: Business and Economics.

Othman, R. B., Rapi, R. B. M., Alias, N. E. B., Jahya, A. B., & Loon, K. W. (2019). Factors Affecting Employee Engagement: A Study among Employees in the Malaysian Construction Industry. International Journal of Academic Research in Business and Social Sciences, 9(7), 784–797.

Pancasila, I., Haryono, S. & Sulistyo, B.A. (2020). Effects of Work Motivation and Leadership towards Work Satisfaction and Employee Performance: Evidence from Indonesia. Journal of Asian Finance, Economics and Business, 7 (6), 387 – 397.

Pawirosumarto, S., Sarjana, P.K. & Muchtar, M. (2017). "Factors affecting employee performance of PT. Kiyokuni Indonesia", International Journal of Law and Management, 59 (4), 602-614.

Prabhu, P. G., & Ambika, D. (2013). Study on behaviour of workers in construction industry to improve production efficiency. International Journal of Civil, Structural, Environmental and Infrastructure Engineering Research and Development (IJCSEIERD). https://www.researchgate.net/publication/235944434

Pragiwani, M., Alexandri, M. B., & P, C. (2018). Analisis Employee Empowerment Dan Knowledge Management Pada Peningkatan Kinerja Karyawan Di Sektor Pariwisata. AdBispreneur, 3(1), 73. https://doi.org/10.24198/adbispreneur.v3i1.18176

Rahiman, H. U., & Kodikal, R. (2017). "Impact of employee work related attitudes on job performance", British Journal of Economics, Finance and Management Sciences.

Rahmi, A., Achmad, G. N., & Adhimursandi. D. (2020). The Effect of Leadership and Empowerment Style and Motivation on Work Discipline and Employee Performance in Sungai Kunjang Subdistrict, Samarinda City. International Journal of Business and Management Invention (IJBMI) ISSN(Online): 2319-8028, ISSN(Print): 2319-801X. https://www.researchgate.net/publication/343670081

Robbins, S. & Judge, T. A., (2017). Organizational Behavior. 13th Edition. Essex: Pearson Education Limited.

Shohet, I. M., Luzi, M., & Tarshish, M. (2018). Optimal allocation of resources in construction safety: Analytical-empirical model. Safety Science, 104, 231–238.

Siregar, Z. M. E., Suryana, Ahman. E. & Senen. S. H. (2019) Factors Influencing Innovative Work Behavior: An Individual Factors Perspective. International Journal of Scientific and Technology

Research.

Sunindijo, R. Y., Zou, P. X. & Dainty, A. (2017). Managerial skills for managing construction safety. Civil Engineering Dimension, 19, 63–72.

Wang, X. H., Kim, T. Y., & Lee, D. R. (2016). Cognitive diversity and team creativity: Effects of team intrinsic motivation and transformational leadership. Journal of Business Research, 69(9), 3231-3239.

World Bank Group. (2022, November 2). Ghana Can Turn Climate Challenges into Opportunities for Resilient and Sustainable Growth, says new World Bank Group Report. World Bank. https://www.worldbank.org/en/news/press-release/2022/11/01/ghana-can-turn-climate-challenges-into-opportunities-for-resilient-and-sustainable-growth-says-new-world-bank-group-report