

Exploring the Competency Elements of Building Construction Site Managers for G3 Class Contractors

Wan Nor Fazlina Wan Mohamed Tirmizi^{1*}, Hashima Hamid¹

¹ Faculty of Technical and Vocational Education

Universiti Tun Hussein Onn Malaysia, Parit Raja, 86400, Johor, MALAYSIA

*Corresponding Author: fadzlinatirmizi98@gmail.com

DOI: <https://doi.org/10.30880/ritvet.2024.04.01.009>

Article Info

Received: 3rd February 2024

Accepted: 14th June 2024

Available online: 30 Jun 2024

Keywords

Element Competencies, Site Supervisor, Contractors G3, Building Construction, Technical Skills, Non-Technical Skills

Abstract

This study was conducted to explore the elements of competence of building site managers among the latest G3 class contractors in Malaysia. Contractors can choose competent workers in the construction sector to make sure the project can be delivered very well. This study uses a qualitative method by interviewing experts who are experienced and active in the construction sector to obtain the elements of competence that are needed nowadays in terms of technical and non-technical skills. The results of this study show that there are four elements of construction site manager competence for class G3 contractors, which are divided into two parts, namely technical and non-technical skills. The elements of technical skills are knowledge and skills. Meanwhile, the elements of non-technical skills are communication, critical thinking discipline, and trust in technical skills, and three elements of non-technical skills. Finally, it can be concluded that hiring someone to be a site supervisor needs to emphasize criteria and skills that are suitable for the scope of work that will be the responsibility of the construction site supervisor.

1. Introduction

The contractor is the party responsible for carrying out activities or work processes at the construction site to complete the project. The success of a contractor company depends on the organization being established successfully carrying out its responsibilities well, more systematic management, and effective strategy (Abd Ghani, 2016). Management of documentation work or work management at the construction site needs to be done well because it is a factor that drives the success of a contractor company. Management failure will cause various unwanted problems such as delays, and cost increases and it will interfere with the implementation of work in a project (Ahmeti, 2022).

Nowadays, the lower-class contractors which are G3, G2, and G1 are still categorized as unstable companies in the construction sector because they are not immune to financial problems. The financial problem that is often debated is to obtain the supply of raw materials when the price of raw materials keeps increasing (Abdullah et al., 2021). This problem will cause contractors from the lower class to be unable to employ competent construction site managers (Tayeh et al., 2019).

In line with the problem statement, this study aims to explore the elements of G3 class contractor building site manager competence. The researcher will explore the experience of several contractors to identify the required competency elements. The study will be conducted on owners of construction companies that have experienced more than 10 years to know what kind of element is needed to be a site manager.

2. Methodology

The methodology section describes the Research Design, Research Procedure, and Research Instrument or other important information related to methodology. The study aims to explore the elements of G3 class contractor building site manager competence among owners of construction companies. 3 contractors have been selected as participants for this research study. Both have experience in the construction sector 10 years and above and they are also from contractor G3 classes.

2.1 Research Design

A generic qualitative approach has been chosen by the researcher to gain the data. Using a generic qualitative called "what will work best" to get answers to the research questions, generic qualitative research aims to understand how people interpret a situation or occurrence. The researcher prepared the interview protocol for this research and an interview was conducted because it is suitable to get any information based on individual experiences to achieve the objective of the study. In this study, a structured interview was conducted face-to-face with contractors from G3 classes that have experienced more than 10 years in the construction industry specially building construction.

2.2 Research Procedure

The research will proceed according to what has been described in the study design. Therefore, the researcher selects and evaluates appropriate experts until the data is saturated and cooperates in identifying the elements of competence required by construction site managers today. The researcher has obtained consent from qualified participants to provide rich, comprehensive, and detailed information by obtaining verbal and written consent and holding an appointment at an appropriate place according to mutual agreement.

The format for the interview session that has been chosen by the researcher is a semi-structured interview. This is because semi-structured interviews are more flexible in giving space and opportunities for the researcher to ask more than one question. The researcher was able to unearth issues regarding the site manager's competence by conducting semi-structured interviews and was able to analyze the data obtained by comparing the different answers from other participants for the same question.

Next, the interview session was conducted until the researcher was satisfied with the information obtained and throughout the interview session and every conversation was recorded using a suitable electronic device to improve the researcher's understanding of the words expressed by the participants. The process of analyzing the data has been carried out by producing a transcription of the data, then the development of research themes by finding similar and related codes.

Then, the analysis process aims to bring out appropriate themes based on the information obtained during the interview session. The researcher will initially examine and understand the important events and characters in the story experience from the participants. The findings of data that have been themed according to suitability will be compared with the Construction Site Manager's Accreditation Conditions document issued by LPIPM. This aims to identify the elements of competence in the present and whether the documents from the LPIPM are still relevant or need to be improved according to the current circulation.

3. Results and Discussion

The result of the study, three participants have been selected for this research. The researcher selected them based on their willingness to participate in this research and they have more than 10 years of experience in the construction industry. The discussion in this study attempts to explore the elements of G3 class contractor building site manager competence.

3.1 Results

The results of this study found that there was a generation of initial codes with open coding based on the researcher's initial interpretation of each coding. At this stage, the researcher only does coding based on the understanding of the needs of the researcher based on knowledge and literature review. The researcher coded as many codes as possible as suggested by Braun and Clarke (2006). Therefore, 59 codes have been removed from the interview data. After that, defining the definition for each code is done in the initial stage, and refinement is done for each code in the next stage.

Once the initial codes are identified, coding will be done for those codes about each element. The Malaysian Construction Industry Development Board has issued requirements for Supervisory and Management Accreditation which consist of elements namely (i) Knowledge and Skills, (ii) Safety and Quality, (iii) Discipline, (iv) Effective Communication, and (v) Ethics and Environment. After that, the compilation of codes and

indicators is done to obtain appropriate sub-themes. For codes that are seen as insufficient, the codes are combined or removed.

At this stage, two levels of review were performed on the elements, sub-themes, indicators, and codes extracted from the interview data. The codes for each element are evaluated as to whether they are coherent with each other. If the codes are still inappropriate, then the researcher needs to get rid of the codes. Therefore, for this first level, some codes have been combined and removed under the designated elements.

As a result of the analysis of the interview transcripts, the researcher obtained four elements of competence expressed by the participants. The elements obtained are themes from the analyzed coding. Among them are i) Knowledge and Skills that represent technical competence. The non-technical elements are i) Communication, ii) Critical thinking, and iii) Discipline and trust.

3.2 Discussions

Overall, this study has successfully achieved the set objective. As a result of the analysis of the interview transcripts, the researcher obtained four elements of competence expressed by the participants. Among them are i) Knowledge and Skills that represent technical competence. While the non-technical elements are i) Communication, ii) Critical thinking, and iii) Discipline and trust. The discussion in this study attempts to explore the elements of G3 class contractor building site manager competence.

3.1.1 Knowledge and Skills

Based on the results of interviews conducted with three G3 class contractor company managers, all three - three contractor company managers strongly agreed that knowledge and skills should be present in an individual who wants to work as a construction site teacher. This is because, the participants stated that the manager of the building construction site needs to have knowledge and skills in basic matters such as reading construction drawings, understanding bill of quantity documents, understanding the symbols in construction drawings, and so on.

They also touched on the same thing involving knowledge and skills where he stated that knowledge and skills need to be acquired step by step. He stated that the construction site manager needs to know the basics of construction so that the site manager can monitor every work done by the workers on the construction site. This statement is supported by Amalludin et al. (2017) and Hardison (2012) where they stated the plan reading skills that construction site managers need to master. Construction site managers are also able to monitor construction activities more effectively, identify issues that occur during work on site, and choose appropriate measures to ensure that the quality of the project is maintained (Chan et al., 2017).

Lastly, the participant stated that site managers need to be skilled in identifying specifications that have been set in contract documents and know and be skilled in managing raw materials. This statement is supported by Ahmed (2019) and Misron et al. (2018) states that site managers also need to master knowledge about the environment, management of building materials, and sustainable construction to ensure the quality of projects produced and save production costs. This will contribute to the reduction of construction solid waste, cost management, and increased project efficiency.

3.1.2 Communication skills

Communication is also one of the elements of the site manager's competence stated by the three participants who were interviewed. The first participant stated that site managers need to have good communication between company managers, customers, workers on site, and the public. This point was also stated by Mahlangu (2014) and Misnan et al. (2009) which they mentioned that construction site managers need to communicate clearly what is required, create a customer-oriented culture, ensure employee satisfaction, and indirectly create a balance between completing work and building good relationships in their team.

The participants touched on good communication in giving awareness and warning about the dangers found in the construction site area. This statement in line with the statement from Hisham (2017) also states that communication is important for site managers to discuss safety between superiors and workers at the construction site. This is because danger at the construction site can occur due to various factors. He also stated that site managers need to have good communication skills and be able to differentiate between work-related and non-work-related communication because it will be able to influence matters to complete the project.

3.1.3 Critical Thinking

Critical thinking is identifying and responding to needs based on understanding the context of the situation and logical analysis of relevant information (National Association of Colleges and Employers, 2022). Based on the analysis done by the participants, a construction site manager needs to be able to identify activities that have the potential to cause accidents on site. Based on the statement from Wong et al. (2021) construction site managers

need to ensure a safe workplace for workers and provide safety tools before starting the task workers also play a role in reporting dangerous conditions in the workplace to site managers so that they can take further action.

In addition, participants also touched on the ability of a site manager to make decisions and be able to think rationally. Ling & Tan (2015) support this statement that construction site managers need to have social skills to get along with the workers. They are assigned to implement the project because they can produce quality products.

3.1.4 Discipline and Trust

Self-discipline and trustworthiness were also examined by three participants during the interview. The first participant stated that the site manager needs to be trusted to carry out his responsibilities and duties as a monitor on the site. This point is supported by Ling & Tan (2015) who stated that site managers need to carry out tasks quickly if decisions have been made by superiors to ensure the project is not disrupted. Besides that, the supervisor must be a role model for their workers by wearing complete personal protective equipment (Fang et al., 2015). In addition, the first participant and the second participant also stated that the site manager needs to take strict action if the workers do anything wrong, especially in terms of safety practices so that the workers on the site respect the site manager and do their work more carefully. This statement is supported by Azmy and Latiffi (2021) and Ammad et al. (2021), where construction site managers need to follow established safety practices and constantly monitor and give strict reminders to workers to prioritize safety practices while at the construction site to ensure that accidents, injuries, and dangers can be prevented.

4. Conclusion

Based on the results obtained, the researcher found that there is an element of competence for technical which consists of i) knowledge and skills. The competency elements for non-technical consist of i) Communication, ii) Critical thinking, and iv) Discipline and trust. That being the case, the competency elements obtained from the interview are slightly different from the competency elements that have been set by LPIPM in giving recognition to building construction site managers.

Technical skills are easy to use and easy to learn. This contrasts with non-technical skills which are difficult to perform with excellence. This is because non-technical skills can only be mastered through experience and frequent use in the workplace. Nowadays, technical and non-technical skills need to go hand in hand and are mutually necessary. Therefore, this paper concludes that technical skills and non-technical skills are important to all skilled workers in any industry to increase their productivity at work; then it will also increase Malaysia's economy through various industrial sectors.

This study has presented answers to related research questions about the competence of construction site managers of class G3 contractors through the interview method. Role and competence are a very important requirements in all areas of work for an organization to achieve the performance that has been set. However, there are still a few companies that employ unqualified workers to manage construction sites. The researcher has explored in detail the experience of contractor company managers in exploring the competency elements required by a building construction site manager. The results show that each element plays an important role in ensuring that the project runs smoothly. Therefore, it is hoped that the findings obtained from this study can open further discussion space and can help the parties involved to make improvements to further improve the quality of construction site managers in the production of better quality and high-quality products

Acknowledgement

The researcher would like to express the highest respect to my supervisor, Dr. Hashima Hamid, of the Tun Hussein Onn Malaysia University (UTHM), and my family for supporting this study.

Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of the paper.

References

- Abdullah, H., Sarpin, N., Omar, R., & Ismayatim, N. (2021). Kajian Masalah Kewangan Yang Dihadapi Kontraktor Bumiputera Semasa Fasa Pembinaan. *Research In Management of Technology and Business*, 2(1), 812–830
- Ahmed, S. (2019). Causes and effects of accident at construction site: A study for the construction industry in Bangladesh. *International Journal of Sustainable Construction Engineering and Technology*, 10(2), 18–40. <https://doi.org/10.30880/ijscet.2019.10.02.003>
- Ahmeti, M. (2022). Identification and Measures to Eliminate Delays in Construction Sector in Kosovo. *IFAC PapersOnLine*, 55(39), 308–313. <https://doi.org/10.1016/j.ifacol.2022.12.040>

- Amalludin, A., Amran, B. I. N., Pengesahan, B., Tesis, S., Projek, K., Dan, P., Amalludin, A., & Amran, B. I. N. (2017). *Kriteria pemilihan penyelia tapak oleh kontraktor ahmad amalludin bin amran universiti teknologi malaysia*
- Abd Ghani, F. (2016). *Faktor-faktor Kritikal Kejayaan Organisasi Kontraktor*. 1–76.
- Ammad, S., Alaloul, W. S., Saad, S., & Qureshi, A. H. (2021). Personal Protective Equipment (PPE) usage in Construction Projects: A Systematic Review and Smart PLS Approach. *Ain Shams Engineering Journal*, 12(4), 3495–3507. <https://doi.org/10.1016/j.asej.2021.04.00>
- Chan, A. P. ., K.W.Wong, F., Hon, C. K. ., Lyu, S., & Javed, A. A. (2017). Investigating ethnic minorities' perceptions of safety climate in the construction industry. *Journal of Safety Research*, 63, 9–19. <https://doi.org/10.1016/j.jsr.2017.08.006>
- Fang, D., Wu, C., & Wu, H. (2015). Impact of the Supervisor on Worker Safety Behavior in Construction Projects. *Journal of Management in Engineering*, 31(6), 1–12. [https://doi.org/10.1061/\(asce\)me.1943-5479.0000355](https://doi.org/10.1061/(asce)me.1943-5479.0000355)
- Ghani, M. K. N. B. A., & Zawawi, E. M. A. (2018). a Study on Environmental Impact From Construction Operation in Residential Areas. *3rd Undergraduate Seminar on Built Environment and Technology 2018 (USBET2018)*, 603–608. <https://ir.uitm.edu.my/id/eprint/47788/1/47788.pdf>
- Hardison, D. (2012). *Knowledge-Based Competencies Necessary for the Frontline Construction Supervisor: Improving Safety through Knowledge*. 60.
- Hisham, H. (2017). *Amalan Pengurusan Keselamatan di Tapak Bina*.
- Ling, Y. Y., & Tan, F. (2015). Selection of site supervisors to optimize construction project outcomes. *Structural Survey*, 33(4–5), 407–422. <https://doi.org/10.1108/SS-08-2015-0041>
- Mahlangu, S. R. (2014). Management Competencies Required in The Transition from A Technician To A Supervisor. *Creative Commons*
- Misnani, M. S., Ramly, Z. M., Lee, C. K., & Bakri, A. (2009). Pengurusan Projek Pembinaan: Kaedah dan Keberkesanan Komunikasi Di Tapak Bina. *Conference Paper, June*, 111–122. <https://www.researchgate.net/publication/321241725>
- Mison, N. F., Khoiry, M. A., & Hamzah, N. (2018). A Framework of Efficient Material Storage Management on Congested Construction Site. *E3S Web of Conferences*, 65, 1–14. <https://doi.org/10.1051/e3sconf/20186503005>
- Mohammad, H., Yaman, S. K., Hassan, F., & Ismail, Z. (2016). Determining the technical competencies of construction managers in the Malaysia's construction industry. *MATEC Web of Conferences*, 47.
- Sy Md Zairrul Azmy, S. F. A. ., & Ahmad Latiffi, A. (2021). Kajian Terhadap Isu Hubungan Kontraktor Utama Dengan Subkontraktor Berkaitan Aspek Pengurusan Risiko Projek Pembinaan. *Research in Management of Technology and Business*, 2(1), 1080–1095. <https://penerbit.uthm.edu.my/periodicals/index.php/rmtb/article/view/2040>
- Tayeh, B. A., Alaloul, W. S., & Muhaisen, W. B. (2019). Challenges Facing Small-sized Construction Firms in the Gaza Strip. *The Open Civil Engineering Journal*, 13(1), 51–57. <https://doi.org/10.2174/1874149501913010051>
- Wong, C. H., Seow, T. W., Sarpin, N., & Omar, R. (2021). Strategy to Improve Supervision Skills Among Site Supervisors in the Construction Industry. *Research in Management of Technology and Business*, 2(1), 941–955. <http://publisher.uthm.edu.my/periodicals/index.php/rmtb>