

Nonverbal Communication in the Construction Industry: A Literature Review

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Abstract

The construction industry (CI) is the environment of the project, which is complex, fragmented, and dynamic in nature and involves many parties. It is proven that most of the problems in CI occur due to poor communication. Based on previous research, nonverbal communication (NVC) constitutes a large part of the communication process. However, the nonverbal side of communication and its influence on organizational outcomes is rarely put in the spot light of research. Therefore, this study aims to provide insight into clues and patterns of nonverbal behavior that correlate with leadership, performance, and productivity in a project setting. This study highlights the importance of attention to NVC in the construction sector.

Keywords: *Communication, Nonverbal communication, Construction industry*

1. INTRODUCTION

The construction industry (CI) is the environment of the project, which is complex, fragmented, and dynamic in nature and involves many parties (Gamil & Rahman, 2018; Rahman & Gamil, 2019). There are numerous problems in construction that are often caused by poor communication (DETR, 1998; Hoezen, Reymen, & Dewulf, 2006; Kazi, 2005; Rahman & Gamil, 2019; Wu, Liu, Zhao, & Zuo, 2017) such as poor performance and poor productivity, cost overrun, delay and even project failure (Abdul Rahman, Memon, Karim, & Tarmizi, 2013; Adam, Josephson, & Lindahl, 2017; Chen, Shan, Chan, Liu, & Zhao, 2019; Emuze & James, 2013; Gamil, Abd Rahman, & Nagapan, 2019; Gamil & Rahman, 2018; Ghanbari, Hosseinalipour, & Mousavi, 2017; Olanrewaju, Tan, & Kwan, 2017; Shahsavand, Marefat, & Parchamijalal, 2018; Wang, Ford, Chong, & Zhang, 2018; Zidane & Andersen, 2018).

Poor communication is an important shortcoming as communication is a critical element in construction project success (Alvarenga, Branco, Guedes, Soares, & e Silva, 2019; Davis, 2014; Fichet & Giraud, 2007; Gamil, Rahman, Nagapan, & Alemad, 2017; Hartman, 2000; Keller, 2001; Mazur, Pisarski, Chang, & Ashkanasy, 2014; Muller & Turner, 2001; Murray, Dainty, & Moore, 2007; Oz & Sosik, 2000; PMI, 2000; Senaratne & Ruwanpura, 2016; Standish Group, 1998) due to the complex and fragmented nature of the industry (Dainty, Moore, & Murray, 2007; Rahman & Gamil, 2019). All phases of construction need constant exchanges of information between professionals (Mbakwe, Nze, & Nnadi, 2019; Tipili & Ojeba, 2014). Researchers in CI have used the term “poor communication” to refer to the phenomena of ineffective communication in the context of construction projects (Dainty et al., 2007; Gamil & Abdul Rahman, 2020).

Poor communication in CI is a recurring problem in all construction projects and it is caused by various factors (Rahman & Gamil, 2019) such as inconsistent verbal and nonverbal communication (Mailabari, 2014; Olanrewaju et al., 2017). Mailabari (2014) found that inconsistent verbal and nonverbal communication is one of major barriers to effective communication in CI. NVC refers to communicating information without the use of speech such as eye

contact, gesture, voice, tone, etc. (Miller, 2005). The use of postures, gestures and signals which do not support the words used during interaction has been cited as one of the barriers to effective communication (Luthra & Dahiya, 2015). John (1999) also pointed out inconsistent verbal and nonverbal communication as barriers for effective communication. Olanrewaju et al. (2017) stressed misunderstanding of body language is one of causes for poor communication in CI. Morlan (2008) mentioned in a diverse project environment, NVC can lead to misperception, misunderstanding and miscommunication. Mehra (2009) also stated nonverbal message as one of barriers for effective communication in the CI. Tayebwa (2014) mentioned the use of both verbal and nonverbal communication during construction project positively affects performance and project participant need to embrace both to minimize any likely misunderstandings that may affect the project progress.

Mbakwe et al. (2019) considered two types of NVC (Use eye contact and encouraging gesture) as factors that reduce the effects of poor communication on project delivery and cost control in CI. Pitch and tone of voice as well as selection of words are also part of making a communication effective (Mulcahy, 2018). It is also consistent with a study on the role of NVC in the construction sector to overcome the challenges of construction projects and improve communication (Günhan, Şenol, & Doğan, 2012). Encinas, Simons, and Sattineni (2021) also pointed out the role of NVC in CI. Authors stated communication has worsened due to COVID-19 and some of these challenges are the absence of physical cues, eye contact, or body language and more misunderstanding when meeting virtually. Leaders of virtual teams that only interact via emails or other written texts are at a disadvantage compared to those who can use gestures, tone of voice, facial expression and all aspects of NVC (El-Tayeh, Gil, & Freeman, 2008).

To enhance communication in CI, the causative factors need to minimize or eliminate (Gamil & Rahman, 2018). In fact, barriers of communication must be removed or minimized as much as possible to make effective communication (Rajkumar, 2010). For example, Graham, Unruh, and Jennings (1991) recommended that businesses pay greater attention to NVC in order to improve communication, particularly

facial expressions, more eye contact, and asking for further information when verbal and nonverbal communication are inconsistent. Therefore, this study aims to review the role of NVC and highlight the importance of attention to NVC between leaders and followers in CI in order to make project successful.

2. LITERATURE REVIEW

This section presents the discussion of the existing literature in the area of communication and NVC in the workplace.

2.1. *Communication in CI*

According to Barrett (2006), communication can be considered as: “the transmission of information from one person to another or many people, whether verbally or nonverbally”. In CI, this transmission process can occur between individuals, or between organizations. Watson and Gallagher (2005) mentioned the effective communication is critical to attain coordinated results, manage change, motivate employees, and understand workforce needs during a construction project, just like in an organization. Managing projects necessitates coordination and communication among all the members and the stakeholders; so, effective communication is critical to the success of each project (Yang, Ahuja, & Shankar, 2007).

Research has shown that leaders and managers spend at least 80–90% of time communicating with project team members (Čulo & Skendrović, 2010; Kloppenborg, 1900; Rodriguez, 2017; Samáková, Babčanová, Chovanová, Mesárošová, & Šujanová, 2018; Taleb et al., 2017). Communication between leader and follower is divided into verbal and nonverbal. Verbal communication (VC) is the exchange of opinions, thoughts, ideas, experiences, and feelings by spoken or written words, while nonverbal communication (NVC) is “the sending and receiving of thoughts and feelings via behavioural choices” (Ambady & Weisbuch, 2010).

Zulch (2014) mentioned that most communication during a construction project belongs to speaking rather than writing. Speaking is the most prevalent channel of communication since it is direct, immediate, spontaneous, and is utilized in a variety of contexts (Zulch, 2014). Project managers and

supervisors spend around 76% to 90% of their time on a project interacting with team members through oral communication (Laufer, Shapira, & Telem, 2008; Rajkumar, 2010). It was shown that the role of oral communications in construction projects is significant. Oral communication in construction projects can be phone calls, face-to-face meetings, or other verbal electronic means (Aghania, Ramzani, & Raju, 2019; Shohet & Frydman, 2003; Tran, Nguyen, & Faught, 2017). Shonubi and Akintaro (2016) mentioned important aspects of NVC are kinetic, physical distance (proxemics), tone of voice (paralanguage) and object language that are ever present in oral communication. Therefore, NVC can play a considerable role in oral communication.

Moreover, Dubé and Robey (2009) mentioned communication technologies, such as text-based tools, need more time and effort to deliver information effectively, and overlook vital social information and nonverbal cues that assist develop bonds between collaborators. When teams communicate by email, it is difficult to assess whether the information contained inside the email was comprehended due to the lack of vocal and nonverbal cues (Marlow, Lacerenza, & Salas, 2017). Additionally, lack of NVC in virtual communication make interactions more difficult. Since virtual teams are significantly less likely to build trust (Robert, Denis, & Hung, 2009), one of reasons is the absence of nonverbal cues (Morrison-Smith & Ruiz, 2020). As a result, it is crucial that technology (like video conferencing) is made to provide the advantages of face-to-face conversations, including the ease of instantly spotting confusion. This is crucial not only for synchronous communications but also for asynchronous communications, which are more prone to have misconceptions that can be avoided with more nonverbal cues. So, it can be concluded that NVC play important role in each communication method. Besides, Günhan et al. (2012) mentioned that written and verbal languages are not the sole means by which individuals exchange information, Nonverbal cues play a significant role in communication.

2.2. *Nonverbal communication*

Based on some research, NVC are more important than VC in conveying a message (Islam & Kirillova, 2020). For example, Barnum and Wolniansky (1989) found that more than 70% of communication is

nonverbal and Mehrabian and Williams (1969) said that 93% of communication is possible through nonverbal methods (Dimitriou, 2020; Jung & Yoon, 2011; Musa, Amirudin, Dalhatu, & Musa, 2018). Brook and Servátka (2016) and Beall (2004) also reported that nonverbal constitutes as much as two thirds or more of the total communication in a typical exchange. Additionally, Crane and Crane (2010) mentioned that nonverbal accounts for 65% to 93% of the human interaction to convey meaning through clues. Price (2003) also found that nonverbal content is at least sixty-five percent more powerful than verbal content (whether it is spoken or written). The importance of NVC lies in the fact that it dominates overall human communication. That is, researchers have proposed that NVC explains approximately 60% to 93% of overall effective communications (Birdwhistell, 1955).

The majority of a message's meaning is regularly delivered through NVC rather than VC in the business context (Ober, 2007). NVC is often more effective than VC and can convey meaning better than words (Bambaeeroo & Shokrpour, 2017). NVC would influence interaction with people more than verbal content (Graham et al., 1991). Doyle (2019) also stated that NVC is as important, or even more important than, VC. Aspects of NVC including body language, eye contact, facial expression, and smiles or frowns, even play important role in establishing meaning in non-spoken venues (Dzurec & Bromley, 2012). Moreover, Burgoon, Guerrero, and Floyd (2010) mentioned in case of contradictions between verbal messages and nonverbal behavior, people rely on the messages conveyed by NVC to judge the senders' attitudes and feelings.

NVC can easily exist without VC (McNeill, 2000) and also NVC is almost unavoidable and involuntary (Kurtz, Draper, & Silverman, 2017). Phutela (2015) mentioned when NVC and VC are in conflict, people tend to depend on nonverbal cues to discern the true meaning of a message. Relationships are regulated by NVC, which can supplement or even replace VC in many cases. NVC can create or remove barriers to effective communication and has a significant effect on social surroundings and the entire communication process (Phutela, 2015). Moreover, Mehrabian (1971) mentioned that when there is a conflict between VC

and NVC, nonverbal cues carry up to 13 times the weight of verbal content. In fact, scientific advances have demonstrated that people are subconsciously affected by nonverbal cues.

2.3. Overview of Nonverbal Communication

Over the last few decades, scientific publications have paid more attention to NVC as a branch of communication sciences. Numerous researchers have highlighted the significance of NVC in the generation, processing, and channeling of information, such as Real (1975), Ekman (1993), Lunenburg (2010), Garber (2011), and Krauss, Chen, and Chawla (2015). Penna (2017) point out the importance of NVC during communication in CI such as body language (eye contact, facial expression, gesture, posture, and smile) and paralinguistic (tone of voice, voice volume); additionally, it's referred to consistent nonverbal and verbal messages. Zulch (2014) also mentioned NVC is one of effective communication methods in CI as Rammal (2007) stated NVC play an important role in the communication process. NVC is one of important ways of communication in project teams which can often impact project performance (Jowers, 2000; Morlan, 2008). It is align with study conducted by Ujene and Edike (2015) that noted NVC is one of communication methods in construction industry of developing countries and affect project performance. This study mentioned each communication method (NVC, speaking and written) need appropriate medias/channels for effective communication in CI. Saha (2017) also highlighted the significance of NVC for project manager in order to make project a success.

Appropriate use of NVC not only improves communication, it helps establish and develop credibility in leadership (Fatt, 1998). Schyns and Mohr (2004) explored the importance of NVC in the context of leadership. Binsfrahm (2014) mentioned that NVC skills will improve the communication skills of a leader, which in turn positively affects job performance. Burgoon, Birk, and Pfau (1990) say that leaders employ NVC methods such as more facial expressiveness and fluency as well as pitch variety to influence and persuade followers (van Adrichem, 2017). Ngo (2017) showed NVCs have an impact on how employees perceive leaders' leadership qualities. Gitter, Black, and Goldman (1975) discovered that NVC was the decisive independent variable that

influences the perception of a person's leadership aptitude (Čulo & Skendrović, 2010). Baird and John (1977) also found that "both frequency and type of NVC seem to influence members' perceptions of leadership" (Čulo & Skendrović, 2010). Moreover, previous research showed the crucial role of NVC for leader effectiveness (Awamleh & Gardner, 1999; Bellou & Gkorezis, 2016; Gardner, 2003; Holladay & Coombs, 1993, 1994). Dethmers (2017) and Lauk (2019) also mentioned leaders' NVC affects the perceptions of effective leadership that underscore the significance of NVC for effective leadership.

According to the contingency model of leadership effectiveness, leaders contribute to motivation, control, and influence of group members through verbal and nonverbal communication (Fiedler & Chemers, 1974 cited in DeGroot, 2006). Leaders assert the power and authority verbally and nonverbally to persuade followers, however; it has been suggested that NVC is of higher importance than VC in the leadership context (Darioly & Mast, 2014).

Additionally, Remland (1981) mentioned the followers are more inclined to trust the leader's NVC when the leader's verbal and nonverbal communication are in conflict. Based on Stein (1975), the ability to communicate nonverbally is an important part of leadership. Followers' perceptions of leader's integrity and effectiveness are influenced by NVC (Gardner, 2003). Yukl (2013) mentioned a leader's ability to communicate nonverbally develop a high level of mutual trust, coherence, and sensitivity to the need of followers. Moreover, previous research has been shown that NVC affect subordinate of trust, deception, attractiveness, emotional expression, communication openness, impression formation and social influence (Burgoon, Buller, & Woodall, 1996; Chamberlin, 2000; Myers & Ferry, 2001).

Leaders are those who have the ability to influence or control the actions of others in order to achieve a shared objective (Yukl, 2010). Role of leadership is critical in the success of construction projects (Khan, Ali, & Umar, 2019) because leadership has a significant impact on the whole project process, including the activities of others (Liphadzi, Aigbavboa, & Thwala, 2015). Although leadership is vital in any activity that requires cooperation of a

group of people, leadership in construction is even more critical due to the nature of the construction projects (e.g. Nguyen & Ogunlana, 2004; Odusami, 2002; Ofori & Toor, 2012). So, NVC for leaders in CI is important.

On the other hand, NVC are the primary means for delivering emotions (e.g. facial expressions, gestures and tone of voice) (Hess, 2016; Mehrabian, 1981). Emotion is addressed as one of barriers for effective communication in the CI (Mailabari, 2014; Mehra, 2009; Penna, 2017). The receiver's interpretation of others' messages is influenced by emotion (such as love, anger, defensiveness, fear, hate, and jealousy). Leader's emotions deliver through NVC, hence leader's NVC can affect follower's emotion. Some research also considered supervisor's NVC as "emotion inducing" factor for employees (Dillard, 1998; Jia, 2013). Additionally, according to Emotional Response Theory (ERT; Mottet, Frymier, & Beebe, 2006), leaders' NVC affect followers' emotional reactions. These studies also support the importance of leader's NVC in CI.

According to previous research, leader's NVC is one of factor that affect job satisfaction. For example, Girard, McHenry, Elley, Delahunt, and Fay (2018) identified that NVC by supervisors specifically impacts employees' job satisfaction. Ciuffani (2017) indicated the association between a leaders' use of mixed hand gestures and job satisfaction. Tjosvold (1984) stated leaders' NVC can influence followers' satisfaction, motivation, and performance. Chin (2022) also showed there is a significant relationship between NVC and job satisfaction in manufacturing organization.

Job satisfaction among construction employees is very important in ensuring the success of any construction project because it has influence on the level of commitment and productivity (Kamaruddeen, Hamdan, & Wahi, 2019; Kazaz, Manisali, & Ulubeyli, 2008; Khahro, Ali, Siddiqui, & Khoso, 2016; Lum, Kervin, Clark, Reid, & Sirola, 1998). Increased job satisfaction among construction employees has a direct or indirect positive effect on construction project performance and frequently leads to motivation and improved productivity (Shan, Imran, Lewis, & Zhai, 2017).

2.4. Aspects of Nonverbal Communication

NVC is a channel of communication that is based on unspoken signals, which are influenced by several filters such as culture, environment, personality, etc. There are several channels to convey, such as facial expression, body language, posture and gesture, voice tones and other nonverbal cues (Ngo, 2017). Previous studies have categorized NVC into different aspects such as sign and action languages (Ruesch & Kees, 1956), paralanguage, body movement, facial expressions, eye messages, attractiveness, clothing, body adornment, space and distance, touch, time, smell and manners (Phutela, 2015), facial expressions, body language, paralanguage, and appearance (Breil, Osterholz, Nestler, & Back, 2019), contextual, artificial, performancial and mediatory codes (Harrison, 1974). NVC also can be classified as Kinesics, Paralanguage, Proxemics, and Physical Appearance (Argyle, 1969; Barnum & Wolniansky, 1989; Hall, 2001; Jung & Yoon, 2011; Lin, Zhang, & Gursoy, 2020; Mehrabian & Williams, 1969; Nikian, 2017; Sundaram & Webster, 2000). These four aspects are comprehensive and have distinctive features.

Birdwhistell (2017) proposed that kinesics is the study of the visually sensible aspects of nonverbal interpersonal communication that focuses on how people communicate through movement and postures, gestures and the face and eyes (Morreale, Spitzberg, & Barge, 2001). Kinesics is the most common and dominant mode of a nonverbal interaction (Gamble and Gamble, 2013). Based on Richmond, McCroskey, and Johnson (2003); Kinesics is categorized into five (5) groups: facial expressions, eye contact, gestures, posture, and touch. Proxemics refers to the use of personal space to communicate (Andersen, Gannon, & Kalchik, 2013). Paralanguage focuses on how a verbal message is conveyed such as pitch, rate and volume (Devito, 2017). Physical appearance refers to the physical attractiveness and clothes (Jung & Yoon, 2011).

3. CONCLUSION

The CI is the environment of the project, which is complex, fragmented, and dynamic in nature and involves many parties. Construction project participants came from different levels of expertise, different perspectives and interests, diverse cultural

and organizational backgrounds. Projects' individuals include highly skilled top educated executives to unskilled workers to complete a project on time and within the budget allotted in order to satisfy the client or customer. These features have caused more complexity and challenge to produce products with sustainable, effective, and acceptable quality. Construction is made up of more than only technical and project-related issues. Individuals' efforts are required to complete projects, and the CI is frequently referred to as a people's business. Effective communication is the most critical factor of construction projects that creates a bridge between various professionals which impact the project execution or outcome. Effective communication is very significant to improve the relationship between the project team members in order to complete projects. Despite communication technology developments, face-to-face communication is still preferred by most construction project participants. Face to face communication includes the use of NVC. Hence, construction communication requires high level of NVC due to highly diverse participants in order to overcome the challenges associated with diverse backgrounds. Additionally, previous literature indicated that NVC is one of barriers for effective communication in CI. Therefore, the construction sector needs to pay attention NVC between leaders and followers.

Previous studies showed that NVC plays the considerable role in the communication process, leadership, emotion, job satisfaction, performance, and project success. NVC has a critical role in leadership effectiveness. Leadership also is a critical factor for project success. Thus, the leaders need to pay attention and develop NVC skills in order to be successful and effective leaders. While review of recent literature in the area of NVC revealed that there is a few research on NVC in CI, considering the role of NVC as one of the barriers for effective communication in CI. The need for empirical research on leaders' NVC in CI is clear as leaders face a more dynamic work environment. As social interaction with employees gets more complicated due to varying background (culture, first language, lifestyle) and nature of construction (complex and fragmented), the challenge to understand nonverbal signs is becoming a bigger concern.

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