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## **Overcoming Communication Challenges in the Construction Industry: A Comparative Study of Kuwait and Saudi Arabia**

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**Abstract:** Lack of communication is a major barrier in the construction zone, particularly in Kuwait and Saudi Arabia, and can critically influence the gaining or drub of a project. This survey engaged consultants, clients, and contractors in the Kuwaiti and Saudi construction industry through a comprehensive survey, which listed 32 potential sources and 21 possible consequences of bad communication. The survey revealed that the important reasons of ineffective communication in both countries include the complexity of the industry, poor planning and coordination, reduction of communication techniques and preparation, differences in skill levels among teams, and poor detailed drawing. The greatest notable impact of poor communication includes mistakes, misunderstanding, low satisfaction, poor teamwork, poor planning, time overruns, low productivity, and adverse impacts on the design process. Interestingly, the survey results indicated a substantial agreement between Saudi and Kuwaiti respondents on the roots and influences of bad communication. To improve communication in these industries, it is crucial to treat the identified reasons and implement effective communication procedures and training. This study's findings provide valuable insights for the construction sectors in Kuwait and Saudi Arabia and may also be relevant to other developing countries. Upcoming study should highlight the development and implementation of effective communication strategies based on these findings.

**Keywords:** Communication, Construction industry, Comparative study

### **Introduction**

The industry of construction of any country is vital to its economic evolution and progress. The construction industry counts on the execution and success of many participants in delivering the necessary construction projects (consultants, contractors, clients, suppliers, and subcontractors). To succeed, these sides needed to communicate and collaborate. The execution of a project relies on active communication. (Anantamula, 2015). Effective connection is essential to achieving a constructing project (Dainty et al., 2007; Emmitt & Gorse, 2006). To accomplish its objectives, a construction project requires good collaboration and information exchange among its partners (Akinradewo et al., 2017). Communication proficiency are vital for project stakeholders; they were rated as having the greatest critical adequacy between Palestinian construction project administrators (Omran & Suleiman, 2017). Effective communication improves project performance by saving time, increasing productivity, and increasing customer satisfaction. Inefficient communication leads to time overruns, lost production, and client dissatisfaction.

In the construction industry, poor communication can own a major leverage on the prosperity of a project, leading to delays, confusion, cost overruns, disputes, and even injuries (Hwang et al., 2019). To understand the extent to which poor communication negatively impacts construction projects, it is important to examine literature from scientific journals. An earlier study found that lack of communication between stakeholders is a major contributor to poor project performance (Atkinson, 2002; Ng et al., 2004). Similarly, improved communication amongst stakeholders is essential to achieving project goals, according to (Meng, 2012) findings. In the construction sector, lack of connection can be referred to as unproductive, ineffectual, and bad communication of project data (Berntzen, 1988). Lack of connection in the construction area can establish cost

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overruns, schedule delays, conflicts, and even project collapse, among other consequences. One of the primary reasons of increased project costs is a shortage of effective communication among members of the project team (Mahamid, 2016). As stated by Hyväri (2007), project managers that have the capability to connect effectively are critical to the attainment of any project. The vast majority of construction-related issues stem from a lack of clear and timely communication. (Kazi, 2005). Communication breakdowns are one of the furthest major impedances which Palestinian project managers face when supervising construction projects in Palestine (Omran, Hardan & Suleiman, 2016).

The construction industry in Kuwait and Saudi Arabia suffers from a lack of effective communication, which is examined in this paper. To improve project performance, it gives workable ways to treat with the underlying reasons and effects of these issues. Preliminary studies have concentrated on the sources and special effects of reduced communication in industrialized countries including the United States and Europe. This means that findings from research undertaken in developed countries may not be applicable to countries in the world's developing. Furthermore, no research has been done on the construction industry in Kuwait or Saudi Arabia. For this reason, this research targets to plug this knowledge hiatus and join to the form of awareness about the reasons and impacts of bad communication in the construction zone in Kuwait and Saudi Arabia. The investigation has two objectives: the first is to classify and prioritize the cause and impact of lack communication; the second is to define whether there is a statistically major variance between Kuwaiti and Saudi respondents when it comes to assessing the cause and impacts of bad communication.

## **Literature Review**

In the area of building management, there has been a growing concentration on the issue of lack of communication in recent years. This is due to the understanding that successful construction projects hinge on effective communication. It's often cited as a primary cause of project letdown (Abdul Rahman et al., 2013), rework increases costs and program (Emuze & James, 2013), and misunderstandings between construction parties (Lee & Bernold, 2008). In a comparative study by Oshodi and Rimaka (2013), poor communication was rated as the 11th and 12th most major reasons of construction project delays in Iran and Nigeria, respectively.

Large construction projects often grapple with poor communication, which is frequently identified as a primary cause of project failure. A comprehensive literature review by Hussain et al. (2018) recognized 30 reasons and 20 effects of bad communication in the construction industry. Darvik & Larsson (2010) discovered that quality defects and material distribution discrepancies were due to a shortage of communication and communication disappointment between main stakeholders. Gamil & Rahman (2017) showed a notional analysis of the reasons and impacts of poor communication, identifying several common factors including ineffective communication among construction personnel, poor communication abilities, language obstacles, and a shortage of uphold for developed communication.

Poor communication can increase project execution time variances midst construction associates, cost overruns, rework and redesign events, high accident rates, project weakness, and dejected manpower. Vdovin (2020) and Brookins (2020) also identified several popular aspects of poor place of work communication, including unclear aims, poor guidance, cultural assortment in the workplace, dispirited workers, individual matters, and employee obstacles. Helpless communication midst construction associates can lead to important construction project disputes, tardiness, and cost override. Studies have shown that construction time and cost overruns are greatest frequently produced by bad communication. Time overrun is a common issue in the construction industry, having a harmful impact on project achievement (Faridi & El-Sayegh, 2006). Abdul Rahman et al. (2013) identified a shortage of communication as one of the highest reasons of construction delays. Cost overruns have their greatest influence on the Egyptian construction industry during the design phase. They are produced due to lack of proper communication and collaboration between design participants from different experiences (Bassioni et al., 2013). Lack of connection midst construction associates was similarly one of the roots of cost overruns in Saudi Arabia (Alhomidan, 2013).

In conclusion, poor communication in the building industry can significantly influence the success of a project, leading to delays, confusion, cost overruns, disputes, and even injuries. To ensure effective communication, it is crucial to make sure that all communication is clear, concise, and tailored to the recipient's knowledge level. By prioritizing effective communication, construction companies can improve project outcomes, reduce costs, and enhance team morale, ultimately leading to a safer and more productive work environment.

Despite the wealth of research on the impact of lack of connection in the industry of construction, there is a noticeable gap in the literature when it comes to the construction industry in Kuwait and Saudi Arabia. This research goals to seal this hiatus by inspecting the roots and effects of shortage communication in the construction region of these two countries.

## Method

The current research is established on a questionnaire survey that aimed to gather data from several contributors in the construction industry in Kuwait and Saudi Arabia. The survey includes 53 criteria associated to reasons and impacts of bad communication on building projects. The investigation was split into two portions: the first portion assessed the roots and effects of poor communication on a five-point Likert scale, and the second portion gathered data on the participant's organization and private data. The questionnaire was sent to owners, contracting and consulting construction companies. Project managers with more than five years' experience were asked to complete it. The survey was sent in person and electronically via email.

The current research attentions on civil engineers working in the industry of construction in Kuwait and Saudi Arabia. As of 2020, there were 18,046 Saudi engineers recorded with the Saudi Council of Engineers and nearly 14,500 Kuwaiti engineers listed with the Society of Engineers. A mathematical equation (Equation 1) was used to define the sample size desired for the study.

$$N_o = (t^2 * S^2) / (d^2) \quad (1)$$

Where t = value of the selected  $\alpha$  level of 0.025 in each tail=1.96; s =estimate of standard deviation in the population=1.25; d = acceptable margin of error for mean being estimated=0.15; Equation 2 shall be used to make the correction:

$$N = \frac{N_o}{[1 + (\frac{N_o}{pop})]} \quad (2)$$

In over-all, 243 surveys were spread, and 112 replies were answered, response rate 46%.

## Reliability

An experimental study was conducted to define the reliability of the survey applied in the current research. Reliability was determined using Cronbach's coefficient alpha, which is a generally used measure of reliability. A value of 0.7 or higher is considered reliable, according to (Cronbach & Shavelson, 2004). The Cronbach's coefficient alpha for the reasons and influence of bad communication were 0.948 and 0.922 respectively, as displayed in Table 1. These values are overhead 0.7, showing that the questionnaire is reliable and the study results can be replicated in additional experiments under identical conditions.

Table 1. The survey instrument's reliability

Subscale	No. of Items	Reliability (Cronbach's Alpha)
Causes	32	0.948
Effects	21	0.922
Total Scale	53	0.961

The information gathered from the survey was investigated applying several analytical techniques. The data was transformed to a usable format by using SPSS Version 17.0 for data analysis and evaluated for results. To test the whole profile and experience of the participants' companies, descriptive statistics such as means and frequencies were applied. This provided an understanding of the general characteristics of the sample population.

## Results and Discussion

### Demographic Description

Participants were asked about their years of practice, company kind, company specialty, and company years of experience. Percentages are used to describe the respondents' demographic characteristics. Table 2 offers an indication of the setting of the participants and their construction firms. The plurality of the participants (50%) were clients, followed by consulting firms (33%) and contracting firms (17%). In terms of the specialization of the organizations, most respondents (68%) worked in building construction, followed by highway construction (18%), water and sanitation (7%), and other types of construction (7%). In terms of experience, most respondents (33%) had 6-10 years of experience, followed by 11-15 years (35%), 16-20 years (14%), and more than 20 years (18%). Similarly, most organizations (36%) had more than 20 years of experience, followed by 16-20 years (21%), 11-15 years (16%), 6-10 years (14%), and 0-5 years (13%).

Table 2. Background of respondents and construction firms

Item	Percent
<i>Type of the organization</i>	
Contracting	17
Client	50
Consulting	33
<i>Specialization of the organization</i>	
Buildings	68
Water & sanitation	7
Highway	18
Other	7
<i>Respondents' experience in years</i>	
6 – 10	33
11-15	35
16 – 20	14
More than 20	18
<i>Organization experience in years</i>	
0-5	13
6 – 10	14
11-15	16
16 – 20	21
> 20	36

### Ranking of Causes and Effects in KSA

An ordinal measuring scale was utilized in this study, which ranks rating data based on numbers in descending or ascending order. On an ordinal scale, data were analyzed applying a relative importance index (RII). The RII is a straightforward yet efficient technique for evaluating point of view regarding commonly surveyed variables in construction research. Participants were requested to list the reasons and effects factors in order of significance using a five-point Likert scale (1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = highly agree). The RII was assessed using the RII equation relied on the survey response (Omran & Suleiman, 2017; Salem & Suleiman, 2020) as presented in the subsequent formula (3):

$$RII = \frac{\sum W}{(A \cdot N)} \quad (3)$$

Relative importance index (RII), the weight of each item by participants, which ranges from 1 to 5, is represented by W. It indicates the maximum weight, which is 5 in this situation. N signifies the whole amount of participants. The RII value lies between 0 and 1 (inclusive), and a higher RII number indicates a more important cause or effect. Next, the RIIs were categorized, with the outcomes offered in Tables 3 and 4. RII values ranged from 0.88 to 0.44, indicating that participants considered each of these factors important.

Table 3 offerings a summary of the reasons for poor communication in Saudi Arabia (KSA) as indicated by survey participants. The causes are categorized relied on their values of relative importance index (RII), with a higher RII indicating a higher level of importance. The top reason of poor communication in KSA is possessing different skills levels among construction teams (RII=0.88), followed by lack of communication procedure and training (RII=0.77), incorrect instructions or technical information (RII=0.76), lack of effective communication system and platform (RII=0.75), and lack of effective communication between construction parties (RII=0.73). Other causes in the top 10 include poor communication skills, inaccurate delivery of project information,

contractual barriers, lack of support for advanced communication technologies, and poor planning and coordination. Other causes listed in the table include language barrier, complexity of the construction industry, improper communication channels, and gender differences. Overall, the table shows that poor communication in the KSA construction industry is caused by a combination of factors, including technical and organizational issues, personal and cultural barriers, and a lack of appropriate communication procedures and training.

The results in Table 3 suggest that the top causes of poor communication in the KSA construction industry are related to the skills and expertise of the construction teams, as well as the communication procedures and training in place. Possessing different skills levels among construction teams is likely to lead to misunderstandings and misinterpretations, which can have a harmful impact on the prosperity of the project. Similarly, a lack of communication procedure and training can result in confusion and inefficiency among team members, leading to poor communication and coordination.

Incorrect instructions or technical information and lack of effective communication systems and platforms are also likely to cause poor communication, because it can lead to misinterpretation and faults in the construction process. Lack of effective communication between construction parties can also create barriers to communication and hinder the flow of information. The results also indicate that poor planning and coordination, poor communication skills, and inaccurate delivery of project information are among the top causes of poor communication in the KSA construction industry. These issues can result in delays, cost overruns, and poor-quality construction. Language barriers, complexity of the construction industry, and poor detailed drawing can also contribute to lack of communication in the KSA construction industry. These factors can create challenges for communication and understanding among team members with different languages or from different cultural backgrounds.

Table 3. Descriptive analysis and ranking of poor communication causes in KSA

Cause	RII	Overall ranking
Possessing differed skills levels among construction teams	0.88	1
Lack of communication procedures and training	0.77	2
Incorrect instructions or technical information	0.76	3
Lack of effective communication system and platform	0.75	4
Lack of effective communication between construction parties	0.73	5
Poor communication skills	0.73	6
Inaccurate delivery of project information	0.72	7
Contractual barrier	0.72	8
Lack of support for advanced communication technologies	0.71	9
Poor planning and coordination	0.71	10
Poor communication management	0.71	11
Unavailability of information in the time of need	0.71	12
Lack of communication plan	0.69	13
Slow information flow between	0.69	14
Lack of adequate representation for project stakeholders	0.69	15
Lack of understanding among parties	0.68	16
Possessing different level of education among construction teams	0.67	17
Personal barrier	0.65	18
Diversity of culture and ethics among construction teams	0.64	19
Inaccessibility of information	0.61	20
Improper communication time management	0.61	21
Lack of mutual respect and trust among construction teams	0.61	22
Weak organizational structure	0.61	23
Lack of appropriate communications medium	0.60	24
Lack of clear objectives <sup>1</sup>	0.60	25
Technology malfunction	0.57	26
Frequent changes of project contract	0.57	27
Poor detailed drawing	0.57	28
Language barrier	0.55	29
Complexity of the construction industry	0.53	30
Improper communication channels	0.49	31
Gender differences	0.48	32

Gender differences also can be a cause of poor communication as well. Generally, the outcomes propose that shortage of communication in the KSA construction industry is produced by a combination of factors, including technical and organizational issues, personal and cultural barriers, and a shortage of appropriate communication processes and preparation. Improving communication in the industry will require addressing these causes and implementing effective communication procedures and training.

Table 4. Descriptive analysis and ranking of poor communication effects in KSA

Effect	RII	Overall ranking
Misinterpretation	0.79	1
Misunderstanding	0.76	2
Low Level of satisfaction among construction parties	0.76	3
Poor team work	0.75	4
Poor planning	0.75	5
Demotivated workforces	0.73	6
Conflict among construction parties	0.71	7
Cost overrun	0.69	8
Design errors	0.69	9
Frequent remedies in design and planning schedule	0.67	10
Poor project documentation	0.67	11
Low productivity	0.65	12
Poor risk management	0.65	13
Affects design process	0.65	14
Rework and redesign occurrence	0.64	15
Unclear channels	0.63	16
Waste generation	0.61	17
Time overrun	0.60	18
Failure of the project	0.60	19
Late response to disaster	0.56	20
High accident rate	0.44	21

Table 4 displays an outline of the impacts of lack communication in the Kingdom of Saudi Arabia (KSA) as documented by the survey respondents. The effects are classified rely on their relative importance index (RII) values, with a higher RII indicating a higher level of importance. The top effect of poor communication in KSA is misinterpretation (RII=0.79), followed by misunderstanding (RII=0.76), low level of satisfaction among construction parties (RII=0.76), poor teamwork (RII=0.75), and poor planning (RII=0.75). Other effects in the top 10 include demotivated workforces, conflict among construction parties, cost overrun, design errors and frequent remedies in design and planning schedule.

The results also indicate that poor project documentation, low productivity, poor risk management, affects design process and rework and redesign occurrence are among the top effects of poor communication in the KSA construction industry. These issues can result in delays, cost overruns, and poor-quality construction. Late response to disaster and high accident rate are also among the top effects of poor communication. Overall, the results suggest that lack of communication in the KSA construction industry can produce a variety of undesirable impacts, including misinterpretation, misunderstanding, low satisfaction, poor team work, poor planning, demotivated workforces, conflict, cost overrun, design errors, poor project documentation, low productivity, poor risk management, affects design process, rework and redesign occurrence, unclear channels, waste generation, time overrun, failure of the project, delayed reply to calamity and high accident rate. Treating the reasons of poor communication in the industry can help to mitigate or eliminate these negative effects and improve the overall success of construction projects.

The outcomes shown in Table 4 suggest that poor communication in the KSA construction industry can create a variety of undesirable impacts on the project's success. Misinterpretation and misunderstanding are likely to occur when communication is poor, leading to confusion and errors among team members. This make a detrimental influence on the project's result, including on the design process, and lead to rework, redesign and errors (Salem & Suleiman, 2020). Small scale of contentment through construction parties and poor teamwork are also likely to be effects of poor communication. Construction projects are complex and need the collaboration of multiple parties, and poor communication can create barriers to collaboration and cooperation, leading to low satisfaction and poor teamwork. Poor planning is also an effect of poor communication as it can lead to delays, cost overruns, and poor-quality construction. The results also indicate that poor communication

can lead to demotivated workforces, conflict among construction parties, design errors, poor project documentation, low productivity and poor risk management.

The results suggest that poor communication can create a time exceed in addition to cost overrun and failure of the project. This can also lead to a high accident rate, late response to disaster, waste generation and unclear channels. Overall, the results suggest that the lack of communication can have an extensive scope of negative effects on construction projects in the KSA, including misinterpretation, misunderstanding, low satisfaction, poor team work, poor planning, demotivated workforces, conflict, cost overrun, design errors, poor project documentation, low productivity, poor risk management, affects design process, rework and redesign occurrence, unclear channels, waste generation, time overrun, failure of the project, late response to disaster and high accident rate. Addressing the causes of poor communication can help to mitigate or eliminate these negative effects and improve the overall success of construction projects. It's worth noting that several studies, including (Gamil & Rahman, 2017; Hussain et al., 2018; Rahman & Gamil, 2019), categorized the same reasons and impacts in the top 10, but in slightly various order.

### **Ranking of Causes and Effects in Kuwait**

Table 5 summarizes the reasons of shortage communication in the Kuwaiti construction industry as identified by the survey respondents. The causes are ordered depended on their relative importance index (RII) values, with a higher RII indicating a higher level of importance. The top cause of poor communication in Kuwait is Poor detailed drawing (RII=0.69), followed by Complexity of the construction industry (RII=0.65), Poor planning and coordination (RII=0.65), Lack of communication procedure and training (RII=0.65) and Possessing differed skills levels among construction teams (RII=0.64). Other causes in the top 10 include Lack of clear objectives, Inaccessibility of information, frequent changes of project contract, inaccurate delivery of project information and unsuitable communication time administration.

The outcomes propose that the lack of communication in the Kuwaiti construction industry can be established by a assortment of impacts such as poor detailed drawing, complexity of the construction industry, poor planning and coordination, shortage of communication procedure and training, owning varied expertise levels between construction stakeholders, lack of clear objectives, inaccessibility of information, frequent changes of project contract, inaccurate delivery of project information, and improper communication time management. Addressing these causes can help to improve communication and the overall achievement of construction projects in Kuwait.

The overhead outcomes recommend that bad communication in the Kuwaiti construction industry can be caused by a variety of factors, including poor detailed drawing, complexity of the construction industry, poor planning and coordination, lack of communication procedure and training, having changed knowledge levels amongst construction teams, lack of clear objectives, inaccessibility of information, frequent changes of project contract, inaccurate delivery of project information, and improper communication time management.

Poor detailed drawing can make it hard for parties to realize the project requirements and can lead to misunderstandings and misinterpretations. Complexity of the construction industry can make it difficult for stakeholders to understand the project requirements and can lead to misunderstandings and misinterpretations. Poor planning and coordination can make it difficult for stakeholders to understand the project requirements and can lead to misunderstandings and misinterpretations. Lack of communication procedure and training can make it problematic for parties to recognize the project requirements and can lead to misunderstandings and misinterpretations. Keeping varied abilities levels between construction sides can create it hard for stakeholders to realize the project requirements and can lead to misunderstandings and misinterpretations.

Lack of clear aims establishes some problems for stakeholders to know the project requirements and can lead to misunderstandings and misinterpretations. Inaccessibility of information can produce hard issues for stakeholders to comprehend the project necessities and can lead to misunderstandings and misinterpretations. Frequent changes of project contract can make it problematic for parties to understand the project requirements and can lead to misunderstandings and misinterpretations. Inaccurate delivery of project information can make it tough for stakeholders to appreciate the project requirements and can lead to misunderstandings and misinterpretations. Improper communication time management can make it problematic for participants to recognize the project desires and can lead to misunderstandings and misinterpretations.

Addressing these causes of poor communication can help to improve communication and the overall success of construction projects in Kuwait. By taking steps to ensure that stakeholders have access to accurate and complete information, that communication procedures are in place and training is provided, that skills levels are appropriate, that objectives are clear, and that communication is managed properly, construction projects in Kuwait will be more likely to be successful.

Table 5. Descriptive analysis and ranking of poor communication causes in Kuwait

Cause	RII	Overall ranking
Poor detailed drawing	0.69	1
Complexity of the construction industry	0.65	2
Poor planning and coordination	0.65	3
Lack of communication procedures and training	0.65	4
Possessing differed skills levels among construction teams	0.64	5
Lack of clear objectives	0.64	6
Inaccessibility of information	0.63	7
Frequent changes of project contract	0.63	8
Inaccurate delivery of project information	0.63	9
Improper communication time management	0.61	10
Possessing different levels of education among construction teams	0.60	11
Incorrect instructions or technical information	0.60	12
Poor communication skills	0.59	13
Technology malfunction	0.59	14
Poor communication management	0.59	15
Weak organizational structure	0.59	16
Unavailability of information in the time of need	0.59	17
Contractual barrier	0.59	18
Language barrier	0.57	19
Lack of communication plan	0.57	20
Slow information flow between	0.57	21
Lack of effective communication system and platform	0.56	22
Lack of support for advanced communication technologies	0.56	23
Personal barrier	0.56	24
Lack of adequate representation for project stakeholders	0.56	25
Lack of mutual respect and trust among construction teams	0.55	26
Diversity of culture and ethics among construction teams	0.53	27
Lack of appropriate communications medium	0.53	28
Lack of understanding among parties	0.53	29
Lack of effective communication between construction parties	0.52	30
Improper communication channels	0.51	31
Gender differences	0.49	32

Table 6 shows the results of a survey conducted on construction stakeholders in Kuwait, specifically civil engineers working in the construction industry. The survey aimed to identify the reasons and effects of lack of communication in the construction sector in Kuwait. Table 5 shows the highest roots of bad communication as identified by the survey respondents, with "Poor detailed drawing" being the most significant cause with an RII value of 0.69. Other notable causes include "Complexity of the construction industry", "Poor planning and coordination", "Lack of communication procedure and training" and "Possessing differed skills levels among construction teams".

Table 6 shows the top effects of poor communication, with "Time overrun" being the most significant effect with an RII value of 0.73. Other notable effects include "Poor planning", "Conflict among construction parties", "Low productivity" and "Affects design process". These results suggest that poor communication in the construction sector in Kuwait can lead to significant issues such as project delays, increased costs, and reduced productivity. To mitigate these issues, it is important for the stakeholders in the construction industry to improve their communication practices and invest in effective communication tools and training.

It is generally understandable that poor communication can lead to a wide range of negative effects in the construction industry. Time overruns and poor planning can produce delays at the end of the project, which can cause additional costs and inconvenience to all parties involved. Disputes between construction sides can also

lead to delays and additional costs. Low productivity, design errors, and cost overruns can be a consequence of poor planning and lack of coordination among the parties.

Misunderstandings and unclear channels can lead to misinterpretation and misinterpretation of design, leading to errors and rework, which can increase the project cost and time. Bad danger administration, lack of project records and poor teamwork can lead to a high accident rate and project failure. Overall, all the effects listed in the table can have a undesirable influence on the project and the satisfaction of the sides involved.

Table 6. Descriptive analysis and ranking of poor communication effects in Kuwait

Effect	RII	Overall ranking
Time overrun	0.73	1
Poor planning	0.72	2
Conflict among construction parties	0.71	3
Low productivity	0.71	4
Affects design process	0.71	5
Design errors	0.69	6
Cost overrun	0.68	7
Misunderstanding	0.68	8
Demotivated workforces	0.67	9
Late response to disaster	0.67	10
Poor risk management	0.67	11
Poor project documentation	0.67	12
Low Level of satisfaction among construction parties	0.65	13
Unclear channels	0.65	14
Frequent remedies in design and planning schedule	0.64	15
Misinterpretation	0.63	16
Failure of the project	0.61	17
Waste generation	0.61	18
Rework and redesign occurrence	0.60	19
Poor teamwork	0.59	20
High accident rate	0.51	21

### Hypothesis Testing

Formulating the primary hypothesis was crucial for accomplishing the study's second objective. The Mann-Whitney test, a non-parametric method, was utilized to explore this. The Mann-Whitney test was conducted to ascertain if there was a statistically significant discrepancy in the ranking of poor communication causes at the 0.05 level. The initial hypothesis, H1, posits that there is no substantial difference in the perceptions of respondents from KSA and Kuwait regarding the ranking of poor communication causes. This group comprises 32 variables. Respondents from Saudi Arabia perceived these factors to have a Relative Importance Index (RII) ranging from 0.88 to 0.48, while respondents from Kuwait perceived them to have a RII ranging from 0.69 to 0.49. The high RII values from Saudi respondents and moderately high values from Kuwaiti respondents suggest that these variables significantly influence the causes of poor communication.

Table 7. The results for the hypothesis

	KSA		Kuwait	
	Causes	Effects	Causes	Effects
N	57	57	55	55
Mean Rank	17.73	15.90	13.27	15.1
Sum of Ranks	266.0	238.5	199.0	226.5
Mann-Whitney U for causes	79.0			
Mann-Whitney U for effects	106.5			
Sig for causes	0.163			
Sig for effects	0.802			

The mean rank for the causes in KSA was 17.73 and for Kuwait it was 13.27, and for effects in KSA it was 15.9 and for Kuwait it was 15.1. The Mann-Whitney U test was used to compare the causes and effects between the two countries and the significance level for the causes is 0.163, and for the effects is 0.802. These results suggest that the roots and impacts of poor communication in the construction industry in Saudi Arabia and

Kuwait are not significantly different, and that both countries face similar challenges in this area. It can be inferred that the study found that poor communication in the construction industry is an issue in both countries, and that the causes and effects of poor communication are similar in both countries.

The second hypothesis, H2, posits that there is no important variance in the insights of participants from Saudi Arabia and Kuwait regarding the ranking of the negative effects of poor communication. This category includes 21 variables. Respondents from Saudi Arabia assigned Relative Importance Index (RII) values between 0.79 and 0.44 to these factors, while respondents from Kuwait assigned RII values between 0.73 and 0.51. Both Saudi and Kuwaiti respondents have relatively high RII values, suggesting that these variables significantly influence the negative effects of poor communication. As shown in Table 7, both the Mann-Whitney value of 106.5 and the p-value of 0.802 exceed the 0.05 level of significance. Therefore, the null hypothesis is accepted. This means that there is no statistically significant difference between the perceptions of Saudi and Kuwaiti respondents regarding the undesirable impacts of poor communication.

## **Conclusions**

This investigation pointed to inspect the reasons and influences of lack of communication in the construction industry in Saudi Arabia (KSA) and Kuwait. Results indicated that there were 53 roots and influences of bad communication identified, which were categorized applying the relative importance index (RII) technique. All reasons and special effects were found to be highly important, with an RII above 0.5. Additionally, there was a great level of arrangement between participants in KSA and Kuwait in terms of the classification of bad communication sources and impacts.

The top causes of poor communication in KSA were found to be lack of communication procedures and training, lack of effective communication systems and platforms, lack of effective communication between construction parties, and poor planning and coordination. The top effects of poor communication in KSA were misinterpretation, misunderstanding, low satisfaction among construction parties, poor teamwork and poor planning. Similarly, in Kuwait, the highest roots of poor communication were poor detailed drawing, complexity of the construction industry, poor planning and coordination, lack of communication procedures and training and lack of clear objectives. The upper impacts of bad communication in Kuwait were time overrun, poor planning, conflict among construction parties, low productivity and design errors. Generally, the outcomes of this research highlight the importance of effective communication in the construction industry and the necessity for urgent solutions to address the communication crisis in the construction sector in KSA and Kuwait.

## **Recommendations**

Depending on the outcomes of this survey, the next commendations can be created to recovery the communication crisis in the construction industry in Saudi Arabia (KSA) and Kuwait:

- Implement effective communication procedures and provide training to all construction parties to ensure clear and accurate communication.
- Invest in modern communication systems and platforms to facilitate better communication between construction parties.
- Improve planning and coordination efforts to prevent misunderstandings and misinterpretations.
- Address the complexity of the construction industry by providing clear and specific objectives for all construction projects.
- Improve the detailed drawings provided to construction parties to reduce design errors and improve productivity.
- Address the issues of poor team work, low satisfaction, and conflict among construction parties.
- Work to reduce time overruns and improve overall project planning.
- Encourage continuous improvement in communication practices through regular evaluations and feedback.

## **Scientific Ethics Declaration**

\* The author declares that the scientific ethical and legal responsibility of this article published in EPSTEM journal belongs to the author.

## Conflict of Interest

\* The author declares that there is no conflict of interest

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