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Citation:

Omotayo, TS and Danvers-Watson, O and Oyegoke, AS (2022) Subcontractor trust issues on payment and valuation practices in UK private projects. *Journal of Financial Management of Property and Construction*. ISSN 1366-4387 DOI: <https://doi.org/10.1108/jfmpc-07-2021-0048>

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Document Version:

Article (Accepted Version)

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Subcontractor Trust Issues on Payment and Valuation Practices in UK Private Projects

Abstract

Purpose- Construction project delivery is hinged on the performance of the contractor and subcontractors. In many private construction projects in the UK, there are trust issues between the subcontractor and contractor, especially when there are no collateral warranties to protect the rights of the subcontractors. This investigation identified the causations of distrust between subcontractors and contractors and proffered panaceas.

Design/methodology/approach- Qualitative open-ended questions were employed. Twenty (20) respondents, mainly supervisors, tradesmen, subcontractors, and main contractors in the UK, were interviewed. The thematic analysis approach was used to identify the dominant themes.

Findings- The interview findings were presented descriptively, and the frequency approach identified more occurring themes from the interviewees' responses. The six (6) themes contributing to distrust between subcontractor and contractor are financial pressures, partnering approach, payment and trust, nature of trust, internal influence, and unfair payment.

Originality- Although this study aimed to shed light on the distrust between subcontractors and contractors in private UK construction projects, improvements in contract administration, subcontractors continued professional development, and improved valuation processes can reduce distrust between subcontractors and contractors.

Practical implications- The findings of this study revealed that many subcontractors have limited knowledge of the clauses in contracts they are entering into. Thus, in addition to obtaining collateral warranties, subcontractors must carefully understand their contractual obligations and payment arrangements before agreeing to be part of a construction project.

Keywords Contract; Contractor, Construction projects; Payments; Subcontractors.

1.0 Introduction

The construction industry relies heavily on subcontracting, with around 80-90% of works being carried out by subcontractors on projects (Akintan and Morledge, 2013; Capen, Clapp and Campbell, 1971; Koolwijk, van Oel and Bel, 2021; Martin and Benson, 2021). The strength and quality of relationships between the subcontractor and main contractor are essential to a successful project. Historically, this relationship has been plagued with late payment, delays, and poor performance. Latham (1994a) investigated these factors in the 'Constructing the Team' report, amongst other things.

Since then, attempts have been made to improve industry procedures.

The Housing Grants, Construction and Regeneration Act 1996 aimed to improve payment procedures and give the right to resolve disputes through adjudication. Part II of the HGCRA (109-113) deals with payment, the laws the contracts must follow and standardises how payment should be made. Contracts that did not comply with the rules set out by the HGCRA 1996 were to be substituted for The Scheme for Construction Contracts (England and Wales) Regulations 1998. Whilst the HGCRA 1996 is believed to have improved the industry, particularly in resolving payment disputes quickly without the need for the court (Gould and Linnean, 2008), it still had issues that were being exploited. Ruddock et al. (2011) explored the problems with "loopholes" being found affecting payment down the supply chain. Ruddock et al. (2011) postulate that the introduction of adjudication worsens relationships due to its high frequency. Adjudication gave parties the right to settle disputes with the input of an adjudicator whose decision was legally binding. Ruddock et al. (2011) suggested that because of this right to adjudication, Contractors and Clients alike would fall back on adjudication to solve disputes themselves rather than resolve disputes between themselves. This is a costly procedure in which the outcome can be uncertain and detrimental to one party, arguably more so than agreeing to the dispute themselves.

With increasing legal disputes, the Local Democracy, Economic Development and Construction Act (LDEDCA) 2009 amendments to the HGCRA 1996, Part 8 of the LDEDCA 2009 added payment notices to provide a rigid timeframe for payment which is not later than five days after the payment due date. . Likewise, the LDEDCA 2009 was supported by The Scheme for Construction Contracts (England and Wales) Regulations 1998, amended in 2011, and used when necessary (LDEDCA, 2009).

The legislation forms the parameters in which standard forms of building contracts are written. The client's choice of a contract is decided with help from consultants, and it should be best suited to the project. This choice will depend on the type of client and the type and scale of the project. The UK's most popular standard building contracts are the Joint Contract Tribunal (JCT) and New Engineering contract (NEC), used on most large-scale private projects.

Each contract has its definitions and terms regarding payment. In the JCT (2016a), payment is in "*Section 4: Payment*" and in the "*Core Clause 5: Payment*" in the NEC3 (2013a). The JCT (2016a) discusses payment over nine pages across various clauses compared to 2 pages in the NEC3 (2013a). The idea behind the NEC3 form is to simplify contracts by using more explicit language (NEC, 2013a) to improve understanding of its terms, compared to the complexities in the JCT (2016a).

Standardised contracts intend to help the industry work more efficiently. However, problems still arise. The subcontractor must understand contracts before entering the contract, but this can become problematic when main contractors amend standard contracts. Greenwood (1993), cited in Hughes et al. (2015), stated how often standard forms are amended to suit a specific project, with most clauses amended to the main contractor's preference. When it comes to payment terms, these can involve the omission of clauses, the addition of bespoke clauses and amendments to timescales. This can confuse when trying to understand contracts for each project, as they vary from one project to another, even when using the same standard form.

1.1 The Subcontractors Position

Subcontractors are smaller in size and revenue than main contractors, reflecting their cash constraints. Subcontractors cannot wait as long as contractors to pay their labour and often have much shorter payment terms than the main contractor. This strains cash flow, especially when payment is late or unfairly certified. The scope of how payment clauses can be amended from their standard form can increase this strain. Although the subcontract documents are presented for review before entering into a contract, the often restricted time frame and confusing legal terms of amendments can mean subcontractors enter without full knowledge of what they have signed up to.

In addition, to win competitive tender bids, subcontractors will price work with little bounce, creating a large amount of risk, particularly in lump sum contracts (McArdle and Gunning, 2018). Subcontractors who are down on turnover are likely to price tenders tight or 'buy' the work, making cash flow increasingly stressful as there is little room for error. Whilst this type of tender practice is not the standard the industry should follow, Dainty et al. (2001) suggested that main contractors opted for the lowest price irrespective of performance. Oswald *et al.* (2020) opined that when clients select

contractors based on the lowest bid, the successful contractors will have to implement cost-saving strategies to recoup the lowered pricing margin. The implications of the contractor's subeconomic bidding actions usually lead to elevated construction risks, and most importantly, subcontractors late payment (Capen, Clapp and Campbell, 1971; Oswald *et al.*, 2020). Contractor selection processes can dictate the direction and success of a construction project. Consequently, the contractor's early contract decisions affect the relationship between subcontractors and contractors.

1.2. Aim of the study

This study will investigate the causes of distrust over construction payment and valuation practices amongst subcontractors in the UK. The outcomes of this study will elucidate subcontractor payment and valuation implications for the construction industry and suggest mitigation measures as remedies.

2.0 Literature review

2.1. Contractor Relationships

Seligman (2021) highlighted the importance of trust in social relationships and its role in the emergence of modern civil society. Trust is the reliance on someone ability, and it is based on belief and veracity of individual capacity (Oreskes, 2021). Likewise, trust has played a crucial part in construction project delivery, partnership arrangements such as public-private partnerships and private finance initiatives. Collaborative procurement approaches leverage their success on trust. However, there are many instances in the construction sector where distrust in the abilities of one party's capacity to deliver their obligation. Onsite relationships have been a subject of research for some time. Despite the supposed motive that each contractor is to work as a team, significant studies such as Latham's 'Constructing the Team' (1994b) had found there had been a fractious past in need of repair. This is not to say that all projects follow in the same vein. Rather several factors can affect the onsite cohesion between parties. Love (1997) explored how this relationship can work through partnering and found the most significant issue in previous projects for both sides was a violation of trust and unfair treatment. Being more collaborative in the approach seemed beneficial for all parties, including the financial outcome. If this is proven to be possible, the issue remains why it still occurs in current projects.

Akintoye and Main (2007) conducted similar research into relationships from the Contractors perspective. Again, the findings suggested that both main contractors and subcontractors actively encourage working collaboratively due to its benefits to the project. Whilst this seemed to be a shared goal, one of the main issues leading to poor relationships was a lack of trust, as this means a relationship cannot be formed. They found that this often led to defensive attitudes regarding disputes in past projects.

Whilst this research focuses on the trust issues in UK projects. This is not a localised problem. Loosemore (2014) researched the voice of the subcontractor in the Australian construction industry. It was concluded that the main contractor lacked trust, with the main source originating at the tender process. The general idea is that the lowest bidder was selected, using each tender to drive down the other and with onerous contracts placing a large amount of risk on the subcontractor. McCord and Gunderson (2014) conducted research in the USA that supports this, finding that bid shopping attendee was an issue for the subcontractor, stating it is a *“serious problem that promotes an adversarial relationship between subcontractors and general contractors”*. This suggests the impression of bid shopping whereby the main contractors are, from the outset, mainly focused on getting the price down as low as possible with little consideration to the subcontractors' suitability.

Moreover, it must be said that bid shopping, when carried out correctly, is the ethical practice of choosing the lowest cost tender through competitive tendering. This process includes bids assumed to be of a value where the work can be executed properly, with benefits in profit to both parties (Gregory and Travers, 2010).

Conversely, the practice can be abused to make it unethical in which the values of other Contractors tenders are shared with the competition. This allows the chosen contractor to lower their price to suit, meaning they are more likely awarded the project or package, creating an unfair tender process (Degn and Miller, 2003; Murtagh, Owen and Simpson, 2021)). This approach may make subcontractors weary of entering a contract, as this would alter how the relationship will progress. Martin and Benson (2021) investigated the relationship between subcontractors and contractors to identify critical success factors for a cohesive relationship. Martin and Benson (2021) identified early payment, fairness and integrity respect; inclination to negotiate risk and price,

health, safety, and wellbeing concerns; effective communication; and early involvement of the subcontractor in design and planning activities.

Similarly, Murtagh, Owen and Simpson (2021) noted that prompt payment of subcontractors facilitates trust between the main contractor and subcontractor. Likewise, construction risk management and the health and safety of construction activities is hinged on trust built between the contractor and subcontractor (McArdle and Gunning, 2018; Oswald *et al.*, 2020). The psychology of trust between subcontractors and contractors is an aspect of construction research that may provide more insight into demystifying subcontractor payment and valuation issues in construction projects.

2.2 Psychological Influences on Trust

Manu *et al.* (2015) explored both the contextual issues that give rise to trust issues and paid attention to the psychological nature of trust. Ashkanasy *et al.* (2000); Martin and Benson (2021); Shu, Smyth and Haslam (2021); and Ma, Li and Cheung (2022) explored construction organisations culture and project behaviour that can influence the attitude of employees. The authors mentioned above opined that the psychology of trust is predicated on previous relationships and successes in previous projects. The established trust between subcontractors and contractors may not suit every construction project relationship and could cause clashes with other ways of working on a project. Manu *et al.* (2015) argued that the individuality of each party affects the relationship, thus, suggesting possible causations of distrust between a subcontractor and the main contractor. Thereby, leading to a management style that produces an intrinsic level of trust each contractor enters construction projects with.

Furthermore, Manu *et al.* (2015) found key issues that gave rise to trust collapse during the construction process. Concerning payment, these were the change management processes and payment practices. Issues with the scope in the contract documents generated regular disputes in variation payments, and the main contractors' prejudice against specific trades were contextual trust issues. Long payment terms with the power sitting in the main contractors' hands to restrict cash flow to the subcontractor also contributed. Experience of these difficulties could negatively influence the attitude of subcontractors, developing a prejudice on how main Contractors operate. With this

said, Ankrah et al. (2009) research into factors affecting the culture of UK projects found that no significant evidence could be attributed to procurement being a factor that influences culture. Whereas the issues that Manu et al. (2015) investigated are not those that arise at the procurement stage, the effects of the procurement route can give rise to the issues found, such as contract documents. Guo *et al.* (2021) suggested that construction organisational, interpersonal relationship ties, especially the cognitive trust emanating from project leaders, have a major mediating effect. Gou et al. (2021) exposed the intrinsic nature of organisational culture on construction stakeholders, especially the subcontractor. In more complex projects, subcontractors play a significant role in delivering several elements of such construction projects (Turner *et al.*, 2021). Hence, the psychology of trust emerges from the dominant party that intends to exercise a high level of control (Items *et al.*, 2021). In this regard, the main contractor must endeavour to engender an atmosphere of dependency rather than totalitarian construction process control. The main contractor in construction projects must provide clarity on payment deadlines, terms and eliminate unfair treatment of the subcontractor.

2.3 Methods of Payment to Combat Unfair Treatment

Unfair payment and the procedures included in contracts seem to be a persistent issue in the industry and a contributor to the collapse of trust of the subcontractor. Ahmadiheykhsarmast and Sonmez (2020) review the traditional interim payment procedures and how works are valued, suggesting they should be project-specific to help alleviate the issues found with the traditional method. Kaka and Motawa (2009) research support the view of a bespoke and transparent payment procedure for each project to eradicate the common problem of payment disputes.

Before Kaka and Motawa (2009) study, Blyth and Kaka (1999) investigated the proposed use of milestone and stage payments to be a better method than traditional interim payments. Stage payments take away a monthly assessment of works complete and rely on predetermined milestones where the full amount allocated is released upon completion. The research analysed the pros and cons of this method and sought to find the opinions of those in the industry. Blyth and Kaka (1999) found that the main concern with both subcontractors and main contractors was the impact stage payments would have on cash flow as milestones could take much longer to

complete than the month periods used traditionally, meaning much outgoing with a risk of no incoming funds. At the top of the supply, clients saw no issue with cash flow as stage payments put them in a more secure position. Whilst all agreed it would take out the time-consuming process of valuing works. The results found that the worry on cash flow would have contractors inflating their profit margins to gain more security.

Main contractors play a vital role in fostering cohesive relationships with the subcontractors. Clarity of each party's obligations, fair treatment, timely payment and alternative dispute resolution mechanisms such as mediation or conciliation in instances of distrust are vital subcontractor/main contractor relationship management.

In reality, many construction projects still have several distrust issues between the subcontractor and the main contractor. Therefore, this study will provide an investigation outside the scope of academic literature.

3.0 Materials and methods

Qualitative research aims to achieve more in-depth findings outside academic literature, using open-ended questionnaires but more commonly structured, semi-structured or unstructured interviews. Qualitative research pursues subjective data from the participants' perspective, which hope to address the research aims and objectives through interpretation of results rather than statistical analysis (Bazeley, 2002). De Vaus (2013) noted that Survey research strategy might be quantitative or qualitative. This study adopted the survey research strategy and used a qualitative research technique with semi-structured interview questions. The semi-structured interview questions were open-ended to allow the interviewees to express other grievances regarding trust issues on construction projects. The qualitative research approach allowed the researcher to explore more complex trust issues that a quantitative study would struggle to achieve. These trust issues considered the dynamic perspectives and opinions of construction respondents are varying professional experience levels. Therefore, quantity surveyors, project managers, site managers, dry lining installers, bricklayers, commercial managers, ceiling and partitioning installers, and plasterers formed the cohort of interviewees in this study. The interviews were conducted through Zoom online meeting platform due to social distancing restrictions. Consequently, the complex causations of distrust asked questions regarding working relationships, the importance of trust; the payment

approach; internal management influence; payment and valuation practices; contract and scope; risk sharing and allocation, and site management.

The research target sample were those employed within each tier of the construction stage of the project supply chain. These 'tiers' were specified as Supervisor level tradesman, subcontractor and main Contractor management. Management level participants were more suitable as they were likely to be aware of the research topic and have personal experience of payment and valuation practices in the industry.

There was no real purpose for those involved in pre-construction to be in the target sample; whilst elements that could cause the issues may be developed at this stage, the research focused on the views during the actual construction phase. Purposive sampling was used to select the participants for the research, as they needed specific knowledge of construction industry practices to answer the interview questions effectively (Saunders *et al.*, 2018). The purposive sampling technique may contain possible bias weaknesses. Still, it is the suitable option for this study where the line of enquiry for this research considers practical experience and construction relationships (Malhotra *et al.*, 2017).

Considering the desired sample size included reference to the number of individuals who make up the total sample size in the UK, as this was important when carrying out the study. An appropriate sample was needed to collect enough data to represent a reliable view of those employed in the construction stage, adding reliability to the results. CITB (2019) data states that as of 2019, 171,090 people were employed across construction management, construction trade supervisors and surveyors. These occupations suited the target sample and, as such, formed the basis for determining a suitable sample size. The sample size aimed to have a representative spread amongst supervisor level tradesmen, subcontractors and main contractor management. A total sample size of twenty (20) interviewees informed the outcome of the survey interview because of the saturation of responses received during the data collection process (Saunders *et al.*, 2018). The saturation point was reached when the interviewees provided similar responses, and the researchers decided to stop the data collection process. The responses received from the interviewees were analysed thematically by considering the response rate for each question. Thus,

quantitative outcomes were explained descriptively as applied by Ogunnusi *et al.* (2021).

The protocol of the thematic analysis followed the approach applied by Schmidt and Hunter's (2015) and Omotayo *et al.* (2019) where:

- a) The initial categorisation was preceded by reading through the transcribed interview and observing relevant contexts to the study.
- b) The relevant categories were analysed quantitatively in terms of the percentage of the occurrence.
- c) The categories are compiled into themes based on their relevance to the research aim and context of the study.
- d) The themes are broken down into smaller codes containing detailed information about the research aim.
- (e) The smaller coded information was associated with the literature for detailed descriptive explanations.

The thematic analysis was conducted manually through Microsoft Excel, and the results are presented in the quantitative charts, tables and descriptive analysis as expressed in section 4 of this article.

4.0 Analysis and Results

4.1 Background of the respondents

Table 1 shows an overview of the participants, representing the variance of backgrounds amongst them. Most participants were from the subcontractor Management background. This can be assumed to be due to the researcher's background and accessibility to participants, which Marshall (1996) describes as '*Convenience Sampling*'. Table 1 presents the percentage share of participants belonging to each tier, demonstrating this more clearly.

>>>Insert Table 1<<<

>>>Insert Table 2<<<

Table 2. As the follow-up question, the participants were asked to specify their role or trade. The participants inputted their role/trade to make this more concise. As shown

in Table 2, actual inputted responses have been grouped by the researchers where the role is deemed the same. Whilst the data is different, the actual job title of the project manager has been deemed the same. Based on these groupings, there are eight varying roles in the sample. Within these eight roles, 60% were Quantity Surveyors or Site Managers. The final question in the background section of the questionnaire asked participants to select the number of years they have worked in construction overall, rather than their current company or job role, as this may give a false representation of the accumulative experience of the sample. This shows that 40% of the sample had 15+ years of experience in construction, which contributes a wealth of experience to the data, and 75% had over five years of experience. This is expected with the managerial roles that made up the selected sample.

4.2 Qualitative analysis- Thematic analysis

The following subchapters will represent the thematic analysis undertaken with the open-ended question responses. The data was first entered into tables where the initial reading and analysis of responses were carried out; broader categories were identified across the responses with further subcategories within those assigned a code. These codes were then used to represent the frequency that each subcategory or theme appeared within respondents' answers (See Appendices).

>>>Insert Table 3<<<

4.4.1 Thematic analysis

The first question sought to understand the working relationship between the subcontractors and contractors. About Appendix A, the questions presented the lack of trust, poor planning, cost over quality, and subcontractors' take on costs. The values on the y axis represent the frequency of the responses. The first question asked about the relationships between contractors on site, those who disagreed that relationships are usually positive gave reasons why they thought this. Those who disagree are limited because most participants agree with the statement. Table 3 shows that '*Lack of Trust*' was the main reason why relationships were not positive between parties as identified by respondents C, D, M and N.

All participants agreed that trust is very important for a project to be successful for various reasons, as shown in Appendix A. Most believed that trust led to better teamwork between parties, resulting in better trade collaboration. Having all subcontractors, particularly those who work closely, working well together with the main contractor contributing, seems to prove best in delivering a successful project.

The majority of subcontractor and tradesman respondents (interviewees B, E, G, I and J) believed there was a level of distrust when it comes to payment and thought that those responsible for paying for their works did not pay the sum that was due (as shown in Appendix B). In addition, they believed that payment was regularly withheld to a later date prolonging the time before they were paid monies owed. From the main contractor perspective, they believed distrust developed from subcontractors both overclaiming for works that are not yet complete and not applying for payment via the mechanisms set out in the contract.

Responses to the question shown in Appendix C and Table 3. were mixed across participants, which can be seen in the categories that emerged. Whilst more participants stated that their organisations look to work with others during a project, with eight responses fitting into 'Positive individual experience', they agreed with the question. This took different views on the meaning of 'conflicting'. While four responses fit the negative influence category, other interviewees commented that conflict is necessary when resolving issues onsite and inevitable when parties follow their contractual responsibilities.

4.4.2 Payment and Valuation Practices

75% of participants agreed with the question shown in Appendix D and Table 3. The majority who answered yes were subcontractor management, while the other 25% were main contractor management. Various reasons were given why participants thought their works had been unfairly valued; the most prominent of these were cash being held from payments without a sufficient reason given. Most contracts payment terms and clauses allow this to happen, particularly traditional interim applications, and it seems that this is occurring in practice.

4.4.3 Contracts and Scope

Most participants disagreed with the question in Appendix E and Table 3. The most common category that emerged was that construction contracts include too many legal terms, making them difficult to understand to the untrained individual. A theme also emerged: subcontractors believe contracts are written to aid the main contractor, while the main contractor believes they are written to aid the client. This suggests that the risk allocation is shifted down the supply chain through the contents of the contract, as discussed in the previous paragraph and illustrated in Appendix E. This showed that most participants believe the risk is unfairly allocated in a construction project. Categories found in the responses were dominated by conflicting views between tradesmen and subcontractors, compared to those of the main contractor. Twelve responses fit the category that risk allocation represents an 'unbalanced share', and ten fit that the 'subcontractor has the most risk'. These responses were from across the tiers selected for the research. The conflicting view was who held this unbalanced share. All subcontractors believed it was them, whilst main contractors believed they had more risk.

4.5.4 Participants Further Comments

Table 3 and Appendix F shows themes from participants having free reign in the final section of the questionnaire, where additional input was welcomed. Not all participants chose to leave further comments, but those who gave some takeaway points from the research. An overview would be that construction seems to be an industry under pressure financially, which affects those within it at all levels. There is also a shared idea that fairer payment practices should be worked towards in the future.

4.3. Other Notable Findings

Table 3 and Appendix G and H show that 100% of participants believed that trust between contractors on site was 'Very Important' when working toward a successful project. Initial research blamed a lack of trust on numerous issues surrounding payment and valuations, many of which led to disputes, which shows the participants understanding it is a key factor in a successful project. It was found that the most common standard form of contract used was the JCT in its various subcategories. In addition, 85% of participants applied for payment through traditional interim

applications. This must be considered as the choice of contract can greatly influence how the project performs and its mechanisms.

5.0 Discussion of findings

5.1 Financial Pressures

Most of the participants in this research agreed that relationships between Contractors were positive, which is a crucial factor in a successful project. This is a welcome result as existing research puts subcontractor and main contractor relationships are usually troubled. However, it cannot be ignored that subcontractor participants who disagreed made comments on negative relationships becoming more of the norm in recent years due to financial pressures and a shift to 'dog eat dog' practices creating tension and disagreements daily.

5.2 Partnering Approach

Whilst Rahmani (2021) study focused on the main contractor. The initial phase of the investigation found that partnering was a practice that clients and main contractors favoured, but subcontractors differed. The notable findings of section 4.3 noted that standard forms of contract adopted within a project could also influence the level of trust. Trust may also be influenced by external factors such as COVID-19 restrictions and the global supply chain. In collaborative projects, prior success or lack of practice experience may suggest a good relationship between parties involved in a construction project. Rahmani (2021) highlighted the benefits of Partnering and ECI (early contractor involvement), creating long-term working relationships by including contractors much earlier in the procurement process. This approach is said to better relationships and the project through technical, design and planning discussions. There is no reason that a specialist subcontractor would not reap the same rewards from this approach.

5.3 Payment and Trust

It was evident in the findings of this study that there is a lack of trust when it comes to payment in construction. This echoes the findings of the research reviewed in sections 2.1 to 2.3. 90% of participants felt that there was a level of distrust when it came to the payment of work, but when looking further into participant responses from both Tradesmen and subcontractors as opposed to those of main contractors, the perceived reasons for this are different.

The study literature discussed practices such as unethical bid shopping, otherwise known as subeconomic bidding and the importance of price compared to trust or working relationships. Whilst this has significance, it was primarily focused on pre-construction rather than the construction stage (Capen, Clapp and Campbell, 1971; Martin and Benson, 2021). Tradesmen and subcontractors argued that money was often held with little reason to be held to a later date or paid on account to keep work progressing without a formal agreement. These issues contributed to distrust between the subcontractor and the main contractor. Das et al. (2020) acknowledged these unfair practices and saw how main contractors operated within the rules but often used their unequal power to withhold monies from subcontractors. Consequently, on the main contractor side, they believed distrust was due to tradesmen and subcontractors overapplying in provisional applications for works not complete and a lack of understanding of the contract and scope, chasing undue additional payments. It is difficult to conclude which views are correct as the transaction is the same from an outsider's perspective. Each individual or organisation skews these perceptions on either side of the contractual relationship.

5.4 Nature of Trust

The placement of price over trust at tender is more understandable when the nature of trust is examined. Cheung et al. (2003) examined the complexity of trust and how it is earned and managed over time, and the dynamics of how it is either gained or lost between parties. If a traditional procurement route is followed at the pre-construction stage, it can often be the case that the relationship is new. Hence, it is sensible to assume that trust will not yet be established, and as construction is a business, the price will likely take priority. However, there should be time for this relationship to develop during construction, where trust can be earned. Wong et al. (2005) explored the "*Prisoners Dilemma*" where both parties involved have different preferable outcomes, which fits construction, so it is difficult to go against this and make a trusting move. They suggested there must be a party that initiates the trust move for it to be reciprocated by the other; it seems the participants fit the Prisoners Dilemma as responses were directed to what they believe is often the unpreferable outcome they experienced, whereas the other side of the argument would benefit from that same outcome.

6.0 Implications of findings on subcontractor and main contractor relationship

6.1 The nature and influence of the organisational culture of trust and conflict

The research participants agreed that their subcontracting organisations' influence was conflicting relationships with contractors. The interviewees also noted that positive relationships were actively encouraged, with the overwhelming reason being that better relationships result in better construction project outputs. This assertion was supported by (Martin and Benson, 2021). The respondents who agreed did so for differing reasons. Some participants stated that having previous experiences with certain companies or individuals would add to conflicts with mainly negative experiences consuming positive ones. Cheung and Yiu (2006) similarly stated that most conflicts in construction are due to differing views and goals of individuals and organisations instead of emerging from contract procedures or systems. It seems that opinions and emotions can get in the way of working relationships and make them challenging to form, negatively impacting the project.

A different take was the interpretation of '*conflict*' itself and understanding that it is not always negative. The research found that participants saw the conflict as necessary when following the contract to ensure everyone followed their obligations and needed to clear the air when problems arose. Gorse (2003) focused on practical conflict support, which buttresses the responses in this study. Gorse (2003) discussed functional and dysfunctional conflict. Functional conflict arises from disagreements on construction works or processes where parties have different views on relevant issues. It is said that having these discussions is beneficial in identifying the problems and arriving at solutions. Conflict is seen from a different perspective, either necessary in problem-solving or more personal between individuals, so it can be said that there are positives and negatives to conflict.

6.2 Understanding the influence of unfair payment on trust

This study asserts that participants from all supply chain tiers had experienced what they deemed unfair payment practices, most especially subcontractors, with only two not having experienced this. The main reason was that payments were held with little to no substantiation. This affected both contract works and variations. The general perception of unfair payment is hinged on the idea that the main contractor attempts

to pay for as long as possible, even when due. As discussed in sections 1.1 and 2.1, numerous Government acts and amendments to standards form contracts such as the JCT and NEC suits aim to improve the way construction works are valued and the timescales that payment should be received. Lau and Rowlinson (2009) discussed how contracts make it difficult to achieve absolute fairness. Contract payment terms attempt to meet a mutually beneficial outcome that reflects the laws that guide them, but being fair is subject to opinion. While contracts such as the JCT and NEC3 outline how a provisional application or variation should be valued, it is still very much up to the discretion of who values the work. This research expressed their dismay on how variations and day works were valued. As these works lie outside the contract scope and can incur additional costs and delays, there is usually a lot of disagreement and discussion before a sum is finalised. The interplay between contract documentation, price and payment arrangement is of utmost importance to the subcontractor, and this must be respected by the main contractor and relevant associated parties (Hartmann and Caerteling, 2010). Accordingly, the place of value in construction must also be considered carefully by subcontractors' project delivery and the benefits accrue to them. Collateral warranties have been used to foster trust between the subcontractor and other parties in construction projects by creating third party rights for subcontractors (Cocklin, 2021; Plunkett, 2021). In collateral warranties, subcontractors can have a direct relationship with the client. Thereby strengthening the relationship between the subcontractor and the client who makes the payments. However, this may negatively affect the perception and relationship of the main contractor with the subcontractor.

6.3 Contributions to construction contract practice knowledge

Recent studies around trust between subcontractors and construction considered strains emanating from the relationships on risk, health and safety, financial rules governing payment, partnership, procurement practices and construction project delivery (Capen, Clapp and Campbell, 1971; McArdle and Gunning, 2018; Oswald *et al.*, 2020; Guo *et al.*, 2021; Koolwijk, van Oel and Bel, 2021; Martin and Benson, 2021; Shu, Smyth and Haslam, 2021; Ma, Li and Cheung, 2022). This investigation delved deeper into the construction organisational culture of trust and its influence on trust. The greater influence unfair payment has on how low, middle and high experience construction professionals and artisans from the subcontractor and contractors'

perspective view trust. The greater influence of distrust stems from payment concerns. The application of collateral warranty was suggested as a panacea for boycotting unfair treatment by main contractors. Accordingly, the findings proved that many subcontractors have limited knowledge of construction contracts. Hence, continuous development programmes (CPD) and associated contract administration training events should be promoted to develop subcontractors' practice knowledge.

6.4 Limitations of the study

It must be acknowledged that the data is not wholly representative of the largest demographic but rather serves as an indicator of what a larger research survey may have uncovered even though the responses attained a saturation point. The representation of each tier of respondents was not equal, so it can be assumed that the subcontractors' responses will influence the conclusions made in this investigation. Similarly, further studies may be conducted on the Main Contractors' motivation for unethical payment practices in the construction industry. Although the findings of this study are generalised for private construction projects, subcontractors in larger and more complex government construction projects may have a different experience.

7.0 Conclusion and recommendations

The research aim was conceived from the researchers' personal experience working as a quantity surveyor for a specialist subcontractor and observations of lack of trust in commercial construction practices. The research succeeded in its investigation by uncovering some of the perceived causations of distrust, with the opportunity for the researcher to provide recommendations on how these may be addressed. Contracts were difficult to understand for most tradesmen and subcontractors, with criticism of the length, overuse of legal language and lack of clarity causing feelings of distrust and beliefs of intentional deception. Distrust surrounding payment was apparent across the supply chain. Tradesman and subcontractors believe monies owed were often held for no substantial reasons. Main Contractors argued that claims were applied for when it was not due. A shift to more trusting behaviours would be welcomed amongst all tiers. However, the effectiveness of this will always be governed by financial and contractual obligations. The allocation of risk was deemed unbalanced

because it shifted unfairly from the top of the supply chain to the bottom. Risk is unavoidable and, in most instances, negative when carrying out construction works.

7.1 Recommendations for building trust between contractors and subcontractors in UK Private projects

A review of the structure, wording and amendments to contracts may be necessary to address the problems found with contract understanding. It seems that contracts such as the NEC were developed with this in mind. Transparency between Contractors can only help ease concerns and improve trust surrounding payment. Payment and valuation practices need to be improved to combat what is felt as unfair treatment. Common experiences such as holding monies with no justification from the main contractor side cannot continue if relationships improve. Equally, subcontractors must contribute by ridding practices of overapplying for work which contributed to distrust.

Subcontractors must familiarise themselves with the type of contract, clauses' meaning, and what procedures to follow. A beneficial tool for the subcontractor would be to train its workforce on auditing and understanding contract clauses and their implications. It may also be possible for subcontractors to suggest a Partnering approach with regularly used main contractors as it seems to be beneficial in improving trust and relationships.

Further studies should review tradesman and subcontractors contract practice knowledge, what individuals and employers do to address this issue and uncover the potential benefits that additional training would bring to the construction industry. Equally, partnering based procurement is still not as common as other methods, even though research suggests it helps address issues with trust, contractual relationships and project performance.

Appendices-Thematic Analysis Tables

>>>Insert Appendix A<<<

>>>Insert Appendix B<<<

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Tables

Table 1. Overview of interviewees profile and years of experience

Participant	Tier of construction supply chain	Professional role	Years of experience
A	Main Contractor Management	Commercial manager	15+
B	Tradesman	Installation of SFS & drylining	0-4
C	Main Contractor Management	Site manager	5-9
D	Main Contractor Management	Trainee Quantity Surveyor	0-4
E	Subcontractor Management	Quantity Surveyor	0-4
F	Main Contractor Management	Assistant buyer	5-9
G	Subcontractor Management	Assistant project surveyor	0-4
H	Main Contractor Management	Quantity surveyor	5-9
I	Subcontractor Management	Commercial director	10-14
J	Subcontractor Management	Partitions & ceiling installer	15+
K	Subcontractor Management	Project manager	15+
L	Subcontractor Management	Chief executive	15+
M	Subcontractor Management	Drylining	15+
N	Subcontractor Management	Ceiling & Partitions	5-9
O	Subcontractor Management	Quantity surveyor	5-9
P	Subcontractor Management	Brickwork project manager	15+
Q	Subcontractor Management	Project manager	15+
R	Subcontractor Management	SFS, drylining and suspended ceiling	5-9
S	Subcontractor Management	Drylining	15+
T	Tradesman	Plasterer	0-4

Table 2.

Nr	Respondent's attributes	Profession	Percentage	Cumulative percentage (%)
1.	Tier of construction supply chain	Tradesman	10.00	10.00
		Subcontractor management	65.00	75.00
		Main contractor management	25.00	100.00
2.	Professional role	Site manager	30.00	30.00
		Trainee Quantity surveyor	10.00	40.00
		Quantity surveyor	20.00	60.00
		Assistant buyer	5.00	65.00
		Commercial director	5.00	70.00
		Project manager	15.00	85.00
		Chief executive	5.00	90.00
		Drylining fixer	5.00	95.00
		Plasterer	5.00	100.00
3.	Distribution of years of experience	0-4 years	25.00	25.00
		5-9 years	30.00	55.00
		10-14 years	5.00	60.00
		15+ years	40.00	100.00

Table 3. Quantitative thematic analysis

Nr	Question	Response	Percentage (%)	Cumulative percentage (%)
1.	Working relationship and trust	Lack of trust	37.50	37.50
		Poor planning	25.00	62.50
		Cost over quality	12.50	75.00
		Subcontractor take on cost	25.00	100.00
2.	Importance of trust on the success of construction projects	Better teamwork	28.13	28.13
		Trust over contract	6.25	34.38
		Less delay	18.75	53.13
		High standard of workmanship	9.38	62.51
		Better trade-to-trade collaboration	21.88	84.39
		Commercially smoother	15.61	100.00
2	Evidence of distrust between subcontractor and main contractor	Not paying what is due	34.38	34.38
		Claiming for payment that is not due	15.63	50.01
		Negative impact on cashflow	3.13	53.14
		Withholding payment for a later date	18.75	71.89
		Not applying for payment as contract mechanism	12.50	84.39
		Contract terms that negatively affect payment	15.61	100.00
4.	Internal influence from your organisation on relationship with the main contractor	Positive individual influence	30.77	30.77
		Negative individual influence	15.38	46.15
		Cash over positive relationships	7.69	53.84
		Working together results in more financially successful project	15.38	69.22
		Following contract responsibilities	19.23	88.45
		Discussion to resolve issues	11.55	100.00

5.	Payment and valuation practices by the contractor	Disagreement in measurement		10.53
			10.53	
		Disagreement in rates or hours	10.53	21.06
		QS role to make assessment before payment	15.79	36.85
		Contractual procedure of valuation	10.53	47.38
		Retaining cash without reason		84.22
		36.84		
		Payment held until full completion	15.78	100.00
6.	Clarity of contract scope	Too long	11.77	11.77
		Overuse of legal terms	29.41	41.18
		In favour of client	11.77	52.95
		In favour of main contractor	17.65	70.60
		To deceive subcontractors	11.77	82.37
		Open to interpretations	17.63	100.00
7.	Risk sharing and allocation	Unbalanced share	37.50	37.50
		Balanced share	3.13	40.63
		Main contractor has most risk	12.50	53.13
		Subcontractor has most risk	31.25	84.38
		Risk is priced into works	6.25	90.63
		Risk is accepted as part of the project	9.37	100.00
8.	Further comments	Importance of openness of payment	11.11	11.11
		Strive for fairer payment in future	33.33	44.44
		Too complex	11.11	55.55
		Construction is a risky industry	11.11	66.66
		Tighter profit margin	11.11	77.77
		Longer time taken to agree commercially	22.23	100.00

List of Figures

Work Relationships and Trust Question	Categories		Sub-Categories			
	Poor relationships	Financial pressures	Lack of Trust	Poor planning	Cost over quality	Subcontractor takes on costs
Responses						
If you chose Strongly Disagree or Disagree, please briefly explain why						
Principle contractor are often expect a magnitude of FOC favours throughout a project and expect subcontractors to take on costs which are a direct effect of poor principle contractor planning	X	X		X		X
From my experience, there has been tension and disagreement on day to day events/issues	X		X			
Most people are too focused on the financial aspect of the job, as opposed to the job being completed well.		X			X	
Financial pressures have moved the relationship to dog eat dog This is probably in over 50% of projects	X	X	X			X
There has been a significant swing towards lack of trust over the last 5 years	X		X			
Code:						
			1	2	3	4

<u>Work Relationships and Trust Question</u>	<u>Categories</u>	<u>Sub-Categories</u>																			
		Forms good relationships	Better end product	Increased efficiency	Better teamwork	Trust over contract	Less delays	High standard of workmanship	Better trade collaboration	Commercially smoother											
Responses																					
	To form good working relationships so the project moves forward efficiently. Projects run best on trust, collaborative working and reasonable decisions. Not quoting contract clauses at every issue	X						X													
	Being able to trust your other subcontractors allows the job to run smoothly and cuts out waiting times.			X				X													
	Trust on site enables a good working relationship between contractors and can increase efficiency due to effective communication	X		X				X													
	Contractors are the ones delivering the project and if there isn't trust between them then the whole project doesn't run smoothly and causes issues			X																	
	Trust is key between everyone on site. Not only in regards to keeping people safe but a strong trust between contractors and supply chain and contractors and clients, allow for all team members to focus on delivering the works without delay or disagreement's about finance. Whilst knowing the quality of the end product will be defect free, saving return visits and likely hood of repeated work		X					X													
	Trust is key to productivity and hitting key programme dates without delay due to disagreement and otherwise avoidable meetings and discussions whilst also maintaining overall morale and positive mental health.	X		X				X													
	The contractor has to trust the sub contractors to complete work to a high standard and in time.		X																		
	Working together as a team will help the project run smoothly							X													
	The greater the trust, the more efficient the output																				
	When each party has no trust it leads to a frustrated relationship Variations are not agreed Uncertainty in cost and programming has a negative effect	X																			
	the job runs more smoothly																				
	Because you have to complete the project on time and within budget without team work and good communication this is not possible		X																		
	The Contractors on sites are the ones completing the works, so if no relationship the quality could slip and could leave the main contractor / client with a poor product	X	X																		
	When you have been issued with subcontractors information its critical that this is correct and taking peoples word for this is very important	X																			
	Where trust is strong all contractors are more inclined to work together to deliver the project. When there is no trust it can be a battle to get items agreed which then leads to more distrust.	X	X	X				X													

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Appendix B

Work Relationships and Trust Question	Categories			Sub-Categories					
	Individual experience	Financial influence	Necessary conflict	Positive individual experience	Negative individual experience	Cash over positive relationships	Working together results in a more financially successful project	Following contract responsibilities	Discussions to resolve issues
Responses							X		
Please briefly explain your answer		X							
every contractor is different and some maybe small contractors who cannot afford for delay payments or delayed work and could put the contractor at risk where some have more sustainability.									
Previous experience working with other contractors obviously influences the attitude towards certain individuals, whether that be personal, a colleague or word of mouth and unfortunately people tend to talk more in relation to negative encounters than the positives.	X				X				
We should be aiming to complete projects as a team regardless of any previous issues occurring, engaging in clear the air talks before the commencement of any projects will more than help this.			X						X
We always aim to keep contractors happy and maintain a good working relationship	X			X					
Money.		X				X			
Contract managers who dont take a liking of a contractor make it known	X				X				
There's times that conflict occurs between contractors which is needed for example, sticking to contracted works and not letting main contractors command works should be carried for no additional charge.		X	X					X	
See above, whilst the contract is there to be used as a tool to use in contract administration. All firms have to be profitable to stay in business. The margin lines in construction aren't that large, and very commonly a small error, delay or bad deal could result in the resultant margin being affected to a point where a job either does well, ok, or bad. In the end you have to do what is best for the company you work for, whether that comes at the expense of a client or the supply chain. Within the boundaries set out in the contract.		X	X			X			
My Organisation does not promote conflicting relationships, if anything we actively promote good working relationships on a open forum basis, and believe that clear communication is key to a successful project.	X			X			X		
Our Company philosophy is always to be fair.	X			X					
We believe that building relationships is a strong part of making a project run the right way, so make every effort to make it work	X	X		X			X		
as a company we would look to work with both main contractors and trade to ensure conflicts are resolved and we have a good working relationship.	X		X						X
Although you are working for your own company and that is the most important part of my job, if you tried to pull one over on another subbie, it will more than likely come back to haunt you. Having said that keeping lists of delays or damage could save you in the long run, if subbies aren't as honest as you.	X	X			X				X
My company always drive to collaborative working however are more than happy to clash with principle contractors if needed	X		X					X	
We would usually help anyone within reason.	X			X				X	
We as a company generally have a good working relationship with all other subcontractors on site and believe its critical to run smoothly.	X			X			X		
Due to people's past experience and an already existing lack of trust, I think there is already a negative and attack-like approach to new projects even with entirely new site teams.	X				X				
Believe no one purposely goes out their way to cause conflict between parties.			X					X	

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Contracts and Scope Question	Categories		Sub-Categories						
	Share of risk	Party with the most risk	Allowance of risk	Unbalanced share	Balanced share	Main Contractor has the most risk	Subcontractor has the most risk	Risk is priced into works	Risk is accepted as part of a project
Do you believe the allocation of risk is fairly shared in a construction project?									
Please briefly explain your reasoning to the above answer.									
Responses									
Most of the risk is with the contractor especially on Design and Build fair	X	X				X			
Risk can be levied onto the contractor unfairly at times. When this occurs, it can leave the contractor in a difficult situation where they know the additional costs caused by the possible risk can be taken off their final payments	X			X		X			
Risk usually gets put onto the main contractor.	X	X		X		X			
Main Contractor will always push their risk on to a Sub-Contractor.	X	X		X		X	X		
Risk is mostly put to the contractor so there is less risk for the client	X			X		X			
Main contractors tend to put risk greatly on sub contractors and tend to oversee an overlook on health and safety rather than the actual works that are being carried out.	X	X		X		X	X		
Because the risk lies with the person liable they are in essence buying the risk. So the party paying the money for the risk to be transferred obviously sees the risk amount as 'value for money' prior to final agreement			X					X	X
Main contractors try and push as much risk onto the subcontractor as they can.	X	X		X			X		
The contract is generally now more stacked to minimise Main Contractor risk	X	X		X			X		
Contractors pass all risk onto subcontractors	X	X		X			X		
Contract risk seems to fall to the subcontractor. Trade people will walk off site if they do not feel they are being paid fairly. Main Contractors will look to pass their risk down the supply chain.	X	X		X			X		
Main contractors put all the responsibility on to the subcontractors.	X	X		X			X		
Risk is priced			X					X	
Each package has its own risk			X						X
The main contractors try to reduce their risk by adding items to subcontractors to eliminate or reduce their own risk	X	X		X			X		
A lot of the risk is placed on the subcontractor. The main contractor is more protected under the contract.	X	X		X			X		
Financial risk is with the subcontractor however health and safety has general equality split	X	X		X			X		
Everyone has their responsibilities and risks involved for example, not completing works to required specifications in order to save money would be a risk			X						X

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Appendix G

Question	Any further comments on your personal experience of payment and valuation practices on construction projects?	Categories			Sub-Categories							
		Fair payment	Difficulty	Current industry practices	Importance of openness of payment	Strive for fairer payment in future	Too complex	Construction is a risky industry	Tighter profit margins	Longer time taken to agree commercially		
Responses	A site is complete and can take a number of months until the payment is in approved due to client workload and they seem to take longer with FA's than initial tenders.			X								X
	Can be a battle and is why I believe the construction industry can be viewed as the 'construction game'. Subcontractors have to play the main contractors 'game' to ensure fair payment.	X				X						
	Modern day Construction is a minefield.		X					X				
	I feel main contractors should be forced to be more open with their subcontractors on their payment terms and follow suit not keep cash in the bank and make subcontractors fund the projects	X			X							
	Over the years payment practices have gone in cycles. There was massive improvements in payments up until the last recession and then I feel the industry took a step backwards, as each main contractor needed to deliver projects on tighter margins. This led to payment terms being increased and Valuations being under certified and more distrust was felt within the industry. This is slowly starting to improve but it seems to be depending on which main contractors you win projects with.	X		X		X			X			
	I think they are far more difficult than they need to be. If the work is done then the subbie should be paid for it, a small percentage should be taken to cover any snagging works, but anymore than this is a misjustice and simply wrong. The main gripe is the way that the contractor can instruct variation works without agreeing a cost. This puts the subcontractor at financial risk and risk of delay if they refuse to carry out the work	X	X			X						X

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Appendix H