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Legal Challenges and Public Procurement in Construction in Northern Ireland

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Abstract: Public procurement in the construction sector has been an historic problem in Northern Ireland (NI), to the extent that a public inquiry was held on the matter, including investigating why legal challenge are prevalent, and its findings reported in 2010; a 2019 NI Audit Office report into several major construction projects in NI highlighted legal challenges contributing to project delay, suggesting that perhaps there have not been improvements in relation to legal challenges since the public inquiry. This paper aims to ascertain the frequency of public procurement legal challenges in the construction sector in NI, not just the frequency of court cases, but any challenge to public procurement that delays projects. A multi-phase, mixed methods approach was adopted including a literature review, interviews and questionnaire surveys of procuring and contracting organisations to provide details of all forms of legal challenges, to understand why they challenge procurement decisions and to ascertain views on how public procurement is managed in Northern Ireland. The data reveal that approximately 40 out of 1488 procurement exercises in the last 7 years have had some form of legal challenge. The results also indicate that legal challenges are not as prevalent as the contracting side of the construction industry in NI believes them to be and suggest that the legacy from the public inquiry era around 2008–2012 continues to cloud perceptions of public procurement in NI. The analysis also reveals that the challenging political environment, issues with quality assessment and abnormally low tenders have been the main contributory factors to the rise in legal challenges to public procurement in construction in Northern Ireland.

Keywords: public procurement; legal challenges; Northern Ireland



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1. Introduction

The problem of legal challenges in NI is not new; it is a problem that has affected the construction industry in NI for many years and was so problematic in 2009 that a public inquiry was held into public procurement. At that inquiry, evidence from witnesses in relation to litigation highlighted the environment that existed at that time, with one witness describing NI as "the market leader for litigation" while another noted that "NI is the UK leader in dealing with procurement issues" [1]. The Hon Mr Justice McCloskey, in addressing the Society of Construction Law in Belfast in October 2012, drew attention to the fact that there had been a "mini-explosion of public procurement cases" in 2011 [2].

More recently, a 2019 NI Audit Office (NIAO) report into major construction projects [3]. highlighted legal challenges of procurement decisions as a matter that impacts delivery. Other recent studies have highlighted that a vicious cycle exists in NI, with the issue of low tenders setting off a chain of events that is damaging the construction industry in NI [4].

Do public bodies in NI still have as many problems with legal challenges to public procurement awards as they did back in the problematic period of 2009–2011?

This study aims to establish the frequency of legal challenges in public procurement in construction in NI and if procurement has improved since the problematic period between 2009 and 2011.

Having defined the overarching aim of the study, the specific objectives of this study are to:

- Quantify the extent of legal challenges relating to the procurement of public contracts in NI and the associated impacts of these challenges.
- Establish any reoccurring root causes behind legal challenges.
- Ascertain to what extent the governance arrangements and procurement processes in NI have evolved, or not, since the 2009–2011 period.
- Compare the frequency of legal challenges in the rest of the UK and investigate governance arrangements and procurement processes in similar jurisdictions to establish any variance between those in place in NI that may impact the frequency/risk of legal challenge.
- If appropriate, propose enhancements to the procurement process in NI to minimise the risk of legal challenges occurring.
 - Crystallising these objectives, the research questions this study seeks to answer are:
- What are the extents, causes and impacts of legal challenges to public procurement awards in the construction sector in NI?
- Are the procurement governance arrangements in NI adequate?
- Do procurement arrangements in similar jurisdictions vary in any significant way to those in place in NI that may impact on the frequency/risk of legal challenge?
- What improvements could be made to public procurement practices in the construction sector in NI to lessen the risk of legal challenges?

Initial review of legal judgements related to public procurement legislation in NI [5]. does not reveal any cases involving consultants/service contracts. Therefore, this study will be restricted to considering legal challenges involving construction works contracts.

In considering the impact of any challenges, the study will confine itself to time impact, recognising that quantifying the monetary impact of delays would be incredibly challenging, given it would include matters such as legal fees, inflation and numerous other financial impacts of not delivering a project on programme.

Procurement reform is a common refrain, and there are often calls for enhancements to procurement to solve many issues [6]. In NI, using procurement as a mechanism for enhancing social value contributions of projects is one such recent reform [7]. However, within this study, consideration of improvements to procurement processes is limited only to changes that may lessen the risk of legal challenges.

The paper begins with an overview of the public procurement governance framework in Northern Ireland. The procurement framework for construction projects is then discussed. The paper then outlines the recent and forthcoming changes to procurement governance in Northern Ireland. There then follows a literature review that covers the frequency of legal challenges across NI, and why they occur, as well as a review of previous studies into NI procurement governance arrangements. A critical appraisal of the literature is followed by an outline of the research methodology, presentation of the results, conclusions reached and recommendations on improvements that can be made to minimise legal challenges in the future.

2. Governance of Public Procurement in NI

Following the 1998 Belfast Agreement and the establishment of a devolved assembly in NI, public procurement became a devolved matter [8,9] for all procurement carried out by contracting authorities within devolved areas, e.g., housing, education and transport. The Northern Ireland Act 1998 therefore bestows upon the NI Assembly full legislative powers with respect to procurement [8].

This section details how the NI Assembly implements these powers, setting out details on:

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- Policy documentation;
- Organisations set up to manage procurement in NI;
- Mechanisms by which policy is updated.

2.1. Policy Documentation

The policy that governs how public bodies in NI must undertake procurement, the Northern Ireland Public Procurement Policy (NIPPP) document, was prepared in 2012 and last revised (other than by secondary documentation, as described below) in 2014 [10]. It sets out the principles agreed upon by the NI Executive, and it defines the responsibilities of the organisations that have been established to implement the policy, namely:

- The Procurement Board;
- The Central Procurement Directorate (now titled Construction and Procurement Delivery);
- Centres of Procurement Excellence (CoPEs).

The roles and responsibilities of each of these are set out in the following sections.

The Department of Finance website lists the public bodies in NI to which the NIPPP applies [11]; it includes all NI Executive departments (e.g., Department of Education, Department for Infrastructure, etc.) and other public bodies such as Sport NI, the Police Service of NI and the Arts Council. Note that it does not apply to local councils; however, they are still bound by public procurement legislation. The NIPPP has not been updated since 2014, and therefore does not even reflect the fact that procurement policy in NI no longer adheres to EU legislation.

2.2. Procurement Board

The Procurement Board is responsible for developing, disseminating and coordinating public procurement policy in NI, and is responsible to the NI Executive.

The Board is chaired by the Minister of Finance, and initially comprised the Permanent Secretaries of each of the 12 Departments along with two external experts and the Director of CPD.

Minister of Finance Conor Murphy restructured the Procurement Board in December 2020 (Murphy, 2020), appointing a higher representation of individuals from CoPEs, who have day-to-day working knowledge of procurement, to the Board.

2.3. Construction and Procurement Delivery

Construction and Procurement Delivery (CPD) is a business area within the Department of Finance and provides a central procurement function for government in NI. They provide expertise, advice and a coordinating role as well as directly procuring projects. They formulate policy for endorsement by the Procurement Board, disseminate policy and monitor its implementation.

Construction and Procurement Delivery procure projects within the health sector (CPD—Health Projects) and, through their Construction Division, procure a range of projects for bodies such as the Department for Communities, Department of Finance and NI Fire and Rescue Services.

2.4. Centres of Procurement Excellence

As well as CPD, the NIPPP identifies additional CoPEs who work with CPD to develop policies and have their competency periodically reviewed by the Procurement Board. The six other CoPEs are:

- Procurement and Logistics Service (PaLS): procurement for all public Health and Social Care organisations (note, they do not procure construction works, and therefore are discounted from further consideration in this study);
- Education Authority: procurement of works for new build and maintenance of schools;
- NI Housing Executive (NIHE): responsible for public housing provision;

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 NI Water: procure goods, materials, services and construction works in order to provide water and sewerage services;

- Department for Infrastructure, Roads and Rivers (DfI Roads and Rivers): responsible for public roads;
- Translink: responsible for all procurement relating to bus and train services.

To give an indication of the scale of procurement in each CoPE, Figure 1 details the value of works procured in 2021/22 [12]. It should be noted that there can be significant variance in these figures year on year; for example, DfI Roads may procure a large contract, such as the A6 Dungiven–Drumahoe Dualling for over GBP 140 m, as they did in 2018 [12].

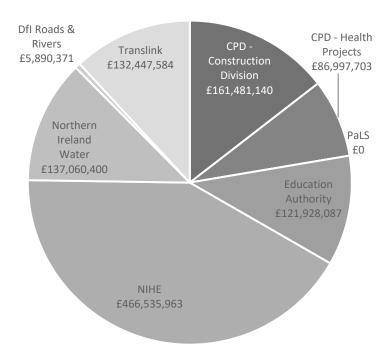


Figure 1. Value of works contracts procured 2021/22 (Department of Finance, 2022a).

2.5. *Updates to Policy*

Since 2021, Procurement Policy Notes (PPNs) are the means by which policy changes are implemented [13]. There are also a number of Procurement Guidance Notes (PGNs) published on the website [14]. Procurement Guidance Notes were the means of updating policy prior to the adoption of PPNs. However, as noted in minutes of the Procurement Board meetings [15], in reviewing the applicability of PGNs, concern was raised in relation to the ambiguity of language and what was policy or simply guidance, and from this came the proposal to change to PPNs to provide an emphasis on policy. Procurement Guidance Notes have been reviewed over the last year and this has resulted in a number being withdrawn.

The notes of a Procurement Board meeting in March 2022 confirm that PPNs are the only mandated policy and PGNs no longer have any status, although that is not clear from the PGNs themselves or the Department of Finance website.

3. Public Procurement in the Construction Sector

Key aspects of NI public procurement policy that are of significance to construction are set out in 'PGN 06/10: Construction Procurement Policy Framework' [9]. The framework outlines the key policy themes that are fundamental to construction procurement (such as appraisal guidance, gateway reviews, sustainable procurement, etc.) and details the process that should be followed to procure a construction contract. Key elements include:

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- ► Financial standing requirements;
- ► Use of Pre-Qualification Questionnaires (PQQ) for selecting tenderers, and provision of standard PQQ templates;
- ► Evaluation of tenders, providing a link to 'PGN 04/16: Selection and Tender Evaluation Procedures' [9];
- ▶ Dealing with Abnormally Low Tenders (ALTs), indicating further details are in 'PGN 03/13: Abnormally Low Tenders'. However, the Department of Finance website lists this PGN as withdrawn [14].

4. Recent and Forthcoming Changes to Procurement Governance in NI

With new legislation being drafted, the nations that make up the UK have agreed to work together to establish a common framework for public procurement to ensure, amongst other things, an internal UK market can function [16].

The inspection of Procurement Board minutes reveals that, since February 2022, the Procurement Board and CPD have been developing Construction and Sourcing Toolkits, mirroring the Construction and Sourcing Playbooks produced by the UK Government in 2020/2021. The minutes note that the Toolkits will be guidance documents only, and their use not mandatory. This caused concern amongst some members of the Board that there is a potential for legal challenges if the Toolkits are not followed consistently by CoPEs. Draft versions of these Toolkits were published for consultation on the Department of Finance's website in July 2022 [15].

A review of the drafts reveals that the Construction Procurement Toolkit [17] is largely a redraft of The Construction Playbook [18] with bolt-ons of various elements of NI procurement guidance. The Sourcing Toolkit replicates various sections of the Sourcing Playbook [16], again with some NI-specific bolt-ons and integration of guidance in places.

The Toolkits emphasise the desire, expressed in the UK equivalents, to move procurement away from being a process-driven function towards being a commercial enabler, with the aim that public procurement will assist in delivering high-level government commitments.

As noted, the Toolkits carry the disclaimer that they are neither legal advice nor statutory guidance; therefore, CoPEs will be able to pick and choose what elements they want, and there is potential to have significant variances between tender documents across the CoPEs.

The governance of public procurement in NI is in a state of flux; new UK legislation that will replace the EU-based legislation is making its way through parliament and CPD/the Procurement Board are looking to implement new Toolkits that will provide guidance to the industry. However, both the proposed legislation and guidance give cause for concern with both having the potential to open new avenues for legal challenge.

5. Literature Review

The literature review seeks to determine the state of research into the extents, causes and impacts of legal challenges in NI, as well as gain an understanding of research into procurement arrangements in NI. As set out above, the period 2009–2011 saw legal challenges impact on the NI construction industry, and more recently, several major projects have been impacted by procurement challenges. The following sections review the literature to determine what can be understood about the extent of legal challenge on all procurement exercises in NI.

5.1. Extents, Causes and Impacts of Legal Challenges in NI

As set out in the introduction, the period 2009–2011 saw legal challenges impact on the NI construction industry, and more recently several major projects have been impacted by procurement challenges. The following sections review the literature to determine what can be understood about the extent of legal challenge on all procurement exercises in NI.

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5.1.1. Legal Judgements

To begin to ascertain the frequency of legal challenges in NI, the Judiciary NI 'Judicial decisions and directions' website [5] was inspected for details of judgements on public procurement relating to construction contracts and Table 1 summarises these judgements, highlighting the root cause of each challenge. As can be seen, there have been a total of fourteen legal judgements, and there are four root causes:

- Abnormally low tenders (ALTs);
- Failure to adhere to process;
- Matters relating to the assessment of quality submissions;
- Issues with PQQs.

Table 1. Summary of public procurement court judgements in NI (Judiciary NI, 2022).

Plaintiff	Defendant	Project/ Framework	Year	Root Cause of Challenge
Henry Bros	Department of Education	Schools Modernisation Framework	2008	Process issue
McLaughlin and Harvey	Department of Finance and Personnel	DfP Framework	2008	Quality assessment
Deane Public Works	NI Water	Brookmount Street—Hunters Crescent Sewer	2009	PQQ submission
Irish Waste Services	NI Water	Sludge Management Services	2010	Process issue
Traffic Signs and Equipment	Department for Regional Development	Supply of Road Traffic Signs	2011	Quality assessment
Scott Electrical Services	NI Water	Electrical works contract	2012	Quality assessment
Lowry Bros/AG Wilson	NI Water	Capital Delivery Framework	2013	Quality assessment
John Sisk and Son Holdings	Western Health and Social Care Trust	Omagh Enhanced Local Hospital	2014	Quality assessment
Fox Building and Engineering	Department of Finance and Personnel	Civil engineering framework	2015	Abnormally low tender
FP McCann	Department for Regional Development	A8 Belfast to Larne	2016	Abnormally low tender
BAM and FP McCann	Department for Infrastructure	York Street Interchange	2018	Quality assessment
Lagan Construction	NI Water	IF105 Framework	2020	Abnormally low tender
Northstone	Department for Regional Development	Term Contracts for Asphalt Resurfacing	2020	Quality assessment
QMAC Construction	NI Housing Executive	Planned Maintenance Services	2021	Process issue

5.1.2. Legal Challenges

Having established the number of legal judgements, a review of the literature was necessary to establish how many legal challenges the industry has experienced, or in the absence of actual figures, may have been expected to have occurred.

Extensive research revealed only one piece of publicly available information on the quantum of legal challenges in NI; in their 2013 investigation into project delivery in NI, the Confederation of British Industry (CBI) advised that in the two-year period 2011–2012, 25 legal challenges (c. 12 per annum) had been reported to the Procurement Board [18].

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Whilst cautious of reporting second-hand data, given Hon. Mr Justice McCloskey's statement in 2012, there seems little doubt that a high number of legal challenges occurred in this period. However, despite extensive searching, it became evident that there are no publicly available data on the number of legal challenges in the intervening period.

Recognising that there is little known about the frequency of legal challenges in the UK, in 2021 Clear and Cahill undertook what they claim to be the first empirical study on public procurement disputes brought by means of judicial review [19]. On the face of it, the Clear and Cahill study [19] provides very useful data on the number of legal challenges across the UK between 2009 and 2015. The authors made freedom of information requests to every local council in England, Wales, Scotland and NI (a total of 407) to ascertain the frequency of legal challenges. Figure 2 would appear to suggest that NI, with 32 challenges in the seven-year period covered by the study, does not have a problem that is any worse than the rest of the UK.

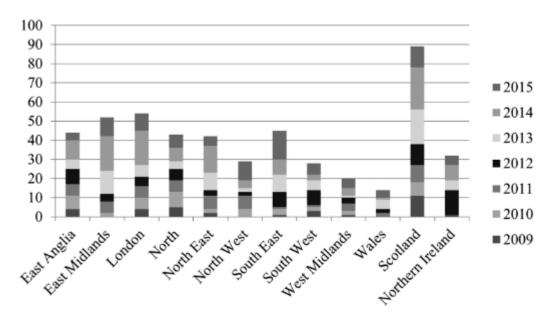


Figure 2. Number of legal challenges received pertaining to Councils' procurement activities in period 2009–2015 (reproduced from Clear and Cahill, 2021) [19].

However, considering a typical year, and dividing the numbers of challenges into local government capital spend [20], as per Table 2, it demonstrates the frequency of legal challenge per GBP spent. The table indicates that legal challenges to local government procurement awards in NI, in the period 2009–2015, were of the order of six or seven times more frequent than in the rest of the UK. A similar ratio is calculated in other years.

Table 2. Local	government s	pend and	number o	of legal	challenges	across the UK.

Region of UK	2015/2016 Local Government Spend (HM Treasury, 2016)	Legal Challenges in 2015 (Clear and Cahill, 2021)	Spend per Legal Challenge
England	GBP 15.8 bn	71	GBP 222 m/challenge
Scotland	GBP 1.9 bn	11	GBP 172 m/challenge
Wales	GBP 859 m	4	GBP 215 m/challenge
NI	GBP 155 m	5	GBP 31 m/challenge

However, the decision to only approach local councils (the reason the authors gave for this was central government departments and other agencies/public bodies are subject to title changes and changing remits, whereas local councils are more fixed in nature) means

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that within the context of NI there is a fundamental shortcoming. Within NI, little public procurement is undertaken by local councils.

The Review of Public Expenditure Statistical Analyses figures indicate that, for example, in 2018/19 and 2019/20, only 7% and 9%, respectively, of capital works were procured by local councils in NI [20], whereas in other parts of the UK local councils are responsible for nearly 30% of public spending [21]. To obtain the true picture in NI, it is necessary to understand the extent of legal challenges related to central government procurement rather than local councils.

Having concluded that the Clear and Cahill [22] study does not give an indication of how many legal challenges may have occurred in relation to over 90% of public procurement undertaken in NI, further research was required. Arrowsmith and Craven undertook empirical research in 2016 on the level of complaints/challenge activity in the UK [22]. They approached solicitors, procuring entities and contractors, obtaining responses to their structured questionnaire from 18 solicitors, 119 procuring entities and 114 suppliers, on the number of legal challenges in the period 2002–2014. Their research indicates that between 50 and 90% of legal challenges are settled or withdrawn before reaching judgement, and that for every case that produces litigation (regardless of whether it went all the way to judgement or not), four to six cases do not produce litigation, but external legal advice is sought. Whilst it is not true that in every instance where legal advice was sought a letter indicating a legal challenge was imminent would be sent to the client, there are obviously many instances where the contractors themselves could issue such a letter (i.e., not seek external legal advice).

It would seem appropriate to use the four to six ratio to gain an approximation of how many legal challenges there are in total per legal judgement.

Figure 3 summarises these ratios, using a notional number of 10 No. legal judgements as a starting point.

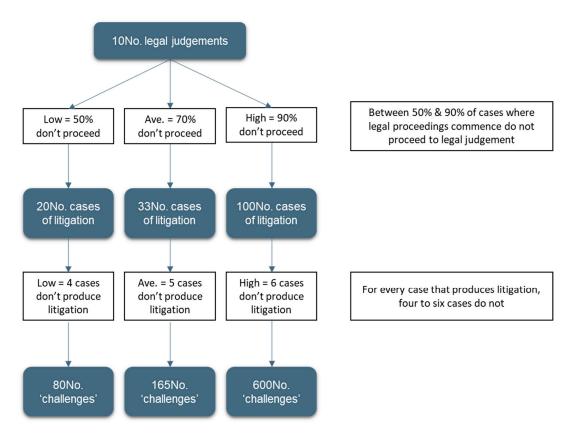


Figure 3. Ratio of legal judgements to legal challenges (as per Arrowsmith and Craven, 2016) [21].

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From Table 1, in the last seven years there have been six legal judgements on public procurement legal cases in the construction sector in NI, all relating to procurement undertaken by CoPEs. Applying the ratios calculated in Figure 3, it would suggest that the number of legal challenges received by CoPEs in this period could be between 48 and 360. Whilst appearing to provide a very useful indication of the potential frequency of legal challenges with respect to NI, it is worth caveating the Arrowsmith and Craven research [22]; there is no indication presented in the study of the location of respondents. Therefore, whilst the study provides insight into the ratios between legal judgements and legal challenges, it does not give any specific insight into the extent of legal challenges in NI.

5.1.3. Causes and Impacts

McArdle and Gunning, in their 2018 study into enhancing value for money in construction projects in NI [4], interviewed representatives from four clients, one contractor and one consultant, and also obtained eighty-one responses to a survey. Whilst it is not comprehensive in its selection of interviewees or methodical in its approach to obtaining survey responses, the research does, amongst other findings, provide insight into the causes of legal challenges (although, given the selective nature of interviewees, the number of legal challenges that this insight relates to is unquantifiable). The shortcomings in the procurement process that could give cause to legal challenges identified in their research include:

- Issues relating to PQQs;
- Procedures for dealing with abnormally low tenders (ALTs).

Their research highlights other matters relating to procurement that are of interest to this study, including:

- Clients focussing on lowest price, as they are 'not willing to put emphasis on quality since it is more subjective in nature compared to cost';
- The lack of opportunities in NI (created by lack of funding) creating a major problem for procurement;
- There is an apparent claims culture in NI. This has previously been suggested in other literature [18,23].

Whilst not specifically related to legal challenges, the paper summarises the impact the accumulation of these matters has on the industry as a vicious circle.

However, the paper does not provide any details on impacts legal challenges have in terms of delays, nor can any other literature be found that does so.

5.2. Procurement Arrangements in NI

This section of the literature review focuses on previous reviews of procurement arrangements to establish views on their adequacy.

Following high-profile legal judgements, in 2009 it was evident that public procurement in NI was not working well. A public inquiry was undertaken and reported in 2010 [1]. The report quotes witnesses as saying:

"One witness described NI as 'the market leader for litigation'".

"NI is the UK leader in dealing with procurement issues".

"Many felt that the stakes were so high in relation to frameworks that often businesses considered legal action to be their only recourse".

However, the inquiry did not appear to make any significant effort to understand why legal challenges were taking place, appearing to accept that legal action was almost inevitable. One would have expected the inquiry to have investigated why CoPEs were repeatedly being challenged and what deficiencies were present in the governance arrangements. The only recommendation related to mitigating legal challenges was that a conciliatory approach should be taken to resolving procurement conflicts and a Supply Chain Ombudsman function should be provided in NI. However, the recommendation was never implemented.

Eadie et al. studied the PQQ element of the procurement process in NI in 2012, finding that contractors did not feel that it added value to the procurement process, the skills of contracting authority staff were average at best and that, following recent court judgements, PQQs had become more generic [24].

In 2013, the CBI published a report entitled 'Infrastructure—investing for our future' following a review of how NI procures and delivers infrastructure projects, concluding that the NI Executive should implement major improvements. In relation to procurement, identifying that NI has a reputation of being the most litigious region for procurement in the UK, its principal recommendation was that NI should follow Scotland and the Republic of Ireland and set up a central procurement and delivery agency [18].

In 2016, the OECD studied procurement arrangements in NI and made five recommendations. These included the Procurement Board should have better representation from within the Departments, procurement should be less risk averse in relation to fear of legal challenge as it was stifling innovation in procurement and that the Procurement Board, CPD and CoPEs be evaluated to ascertain if greater centralisation could drive efficiencies [25].

The NIAO's 2019 report on Major Capital Projects [3] concluded that each of the eleven high-profile projects investigated experienced programme delays and/or cost overruns (totalling over GBP 700 million). The report advises that the programme delays and cost overruns occurred because of one or more of five reasons, one of which is listed legal challenges. Whilst the most significant delays detailed in the report relate to legal challenges raised by objectors to schemes (predominantly on environmental grounds), the report does highlight that "... the increasing appetite in NI to challenge procurements and decisions (the latter through Judicial Review), whether successful or not" can delay projects. However, no investigation of the nature or cause of legal challenge (whether procurement- or environment-related) was made and none of the recommendations of the report directly targeted the problem of legal challenges. The report highlights several issues with respect to the governance of procurement in NI, stating "A series of reviews of the roles of the Procurement Board, CPD, the Strategic Investment Board and commissioning entities have highlighted that current commissioning and delivery arrangements in NI are not fit for purpose." The report stops short of identifying specific improvements in this area but considers that there is merit in considering how alternative models, perhaps more centralised, if they were provided with sufficient skilled resources, might improve matters.

In response to the NIAO report, the Public Accounts Committee (PAC) published a report [26], that set out how the issues identified in the NIAO report should be addressed. Ahead of the PAC report, the PAC requested that research be undertaken [27] into procurement arrangements in Scotland and the Republic of Ireland, with the research paper highlighting that procurement in Scotland and the Republic of Ireland had been identified in the 2013 CBI report as best practice. Most of the recommendations made in the PAC report related to project governance, but two recommendations have the potential to impact on how procurement will be managed in NI. Firstly, performance targets, against which CPD should be measured, should be introduced, and secondly, alternative procurement structures should be considered, with a focus on the increased use of standardised approaches. The second of these is particularly interesting considering the imminent introduction of the Toolkits—as discussed above, these allow CoPEs to selectively adopt the guidance from the Toolkits as they wish; this cannot be seen as encouraging Departments to adopt a standardised approach to procurement.

It is evident that all who have studied the procurement arrangements in NI have identified shortcomings and a number of recommendations, some of which may help mitigate against legal challenge (e.g., Supply Chain Ombudsman, standardisation of approach) have not been implemented. Further research is required to understand if these governance matters are contributing to legal challenges.

5.3. Specific Problematic Areas

This section focuses on areas that have been repeatedly identified as problematic areas in the first two parts of this literature review. The review of previous studies in these areas may be beneficial in assessing potential improvements within NI. The areas are:

- (1) Centralised procurement;
- (2) Abnormally low tenders;
- (3) Assessment of quality submissions.

5.3.1. Centralised Procurement

There is a considerable body of research on the theory, advantages and disadvantages of centralised procurement [28–31]. A centralised procurement system is described as one that delegates responsibility to a single, central body to procure goods, services, etc., that other units in the organisation benefit from; in contrast, a decentralised procurement system allows each agency to purchase goods and services directly from the market [31]. There are hybrid variations of the two models [29].

Peterson et al. summarise that the choice between a centralised or decentralised system involves trade-offs between standardisation, economies of scale and purchasing synergies, on the one hand, and the need for diversity, competitive markets and adaptation to local demands on the other [30]. Patrucco et al. [29] highlight that there is evidence to support either model being more efficient.

Šerpytis et al. [28] identify one of the main drawbacks of a centralised procurement function being that it adds a degree of separation between the buyer and the supplier.

Pidgeon compared the NI procurement arrangements with those in Scotland and the Republic of Ireland [27], the latter two seen as having centralised systems by the CBI [18], and concluded that "... there does not appear to be radically different governance of public procurement in NI as opposed to the Republic of Ireland and Scotland. Each jurisdiction has a model of a centralised body, with a number of additional sectoral COPEs".

On balance, given that this literature review has revealed that one of the main challenges in NI procurement is the assessment of quality submission, it would appear that the specialised CoPEs, better qualified and experienced to make informed assessment in their disciplines, and providing a closer link between buyer and supplier, are a more robust arrangement with respect to minimising the risk of legal challenge.

5.3.2. Abnormally Low Tenders

The acceptance of a tender that is too low, and potentially unsustainable, introduces risks to a project, ranging from the default of a contractor to an increase in contract price [32–34]. Such tenders are described as abnormally low tenders (ALTs). Abnormally low tenders are more common when tenders are predominantly assessed on price [35].

The Public Contract Regulations 2015 (PCR) state that "Contracting authorities shall require tenderers to explain the price or costs proposed in the tender where tenders appear to be abnormally low in relation to the works, supplies or services". The PCR goes on to advise that contracting authorities may only reject the tender where the explanation supplied does not satisfactorily account for the low level of price or costs proposed. Note that there is no legal definition of what can be regarded as an abnormally low tender [34].

In NI, 'PGN 03/13: Abnormally Low Tenders' set out the approach to determining what constitutes abnormally low and how tenderers could satisfy contracting authorities; however, that PGN has been withdrawn. At present, therefore, no guidance exists within the NI procurement process as to how to address any tender that a contracting authority suspects may be abnormally low.

Inspection of the Scottish 'Construction Procurement Handbook' reveals that their methodology for assessing when a tender is potentially abnormally low is based upon the NI PGN 03/13 [34], and so no alternative methodology is available in that jurisdiction. A graphic representation of that methodology is shown in Figure 4. This shows the adjusted median boundary as 15% below the median price, with the proximity boundary calculated

as 1% of the lowest qualifying price, defined as the lowest price submitted that is more than the median boundary [34]. Any tender that is below the proximity boundary is deemed to be potential abnormally low, and the contracting authority must seek an explanation from the tenderer.

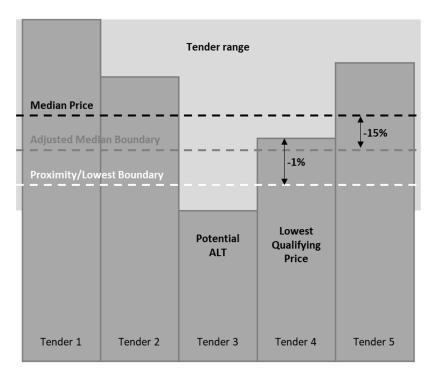


Figure 4. Identification of potential ALTs [34].

SIGMA, a joint OECD/EU initiative aimed at improving public sector governance, produced a briefing paper in 2016 on dealing with ALTs within the EU public procurement directives. The briefing paper describes arithmetical models for the identification of potential ALTs that exist across a number of EU Member States, including Italy, Portugal and Romania [33]. The models range from very similar to that in Scotland (and previously in place in NI), with a 15% below average bid being considered potentially abnormally low, to 40% below contracting authorities' budget price being the threshold.

5.3.3. Assessment of Quality Submissions

To understand how the assessment of quality submissions is undertaken in NI and before the consideration of the literature that may assist in identifying alternative approaches that may be beneficial, tender documentation produced by CoPEs was reviewed to appreciate what is requested from tenderers in terms of a quality submission and how they are scored/assessed. Documentation from three recent tenders was reviewed:

A major highways upgrade project;

A water framework;

A new college campus.

From this review of a small number of tenders, several issues became clear:

There is no standardised approach to question setting, how to score responses or formulas used to calculate quality and price scores.

There appears to be a common approach in marking each question out of 5; however, this means that those evaluating the responses, if they feel the response does not merit full marks, have no choice but to deduct 20% of the marks available for that question (i.e., score a 4 instead of a 5); this seems disproportionate.

Most questions ask tenderers to describe their proposals in detail in response to long lists of requirements; however, allowable word counts are often restrictive. If clients want to know proposals in detail, they should afford tenderers the opportunity to provide detail.

Quality questions are often generic (not addressing specific project challenges/constraints); it is not evident how this ensures better quality, and thus best value for money, in delivery of the project, which is the essence of a quality:price assessment.

Formulas used to calculate quality and price scores do not always assign the whole range of scores; in some instances, the tenderer with the best quality score is simply awarded that score, not the full marks available. However, it appears the lowest price is awarded full price marks. This skews the award criteria towards price. The problem of this phenomenon has been explored in the literature [33].

Research has shown that the intricacies of the scoring formulas can impact on tenderers' approach to bidding [35–37]; given the range of different formulas used in the tender documents considered, it appears that detailed consideration of the most appropriate method has not been undertaken in NI.

5.4. Critical Appraisal of the Literature

Whilst there is recognition that legal challenges have caused problems in the delivery of construction projects in Northern Ireland, what is not understood, at least not publicly, is the magnitude of the problem, the root causes and the extent of the impact. Research has been undertaken that attempts to ascertain the frequency of legal challenges. However, this research appears flawed and seems to produce misleading results, especially in relation to Northern Ireland, because it appears to only consider local councils, whereas the vast majority of construction procurement is undertaken by departments within the Northern Ireland Executive. A review of a publicly available public procurement case tracker reveals a significant number of legal updates on public procurement decisions in Northern Ireland's courts. However, what is not included in any such tracker, or review of judicial decisions published by the judiciary in Northern Ireland, is the challenges that do not reach court but cause project delays nonetheless.

5.5. Knowledge Gap

There does not appear to have been a study of the whole procurement process in Northern Ireland that assesses the underlying causes of procurement challenges and their associated impacts. Summarising the above, previous research is short in the following areas:

- Data on the number of legal challenges relating to procurement undertaken by the principal procurement organisations (CoPEs) in NI, and the time impact of any such challenges.
- A comprehensive understanding of the specific causes of all legal challenges.
- The Clear and Cahill study, whilst only relating to local councils, indicates that legal challenges are more frequent in NI; however, no research has investigated reasons why.
- Previous studies have identified shortcomings in governance arrangements. Have these shortcomings, several of which remain in place, contributed to legal challenges?

Gathering primary data that address these shortcomings is the focus of the further research undertaken as part of this study. Research is necessary to establish if proposed changes to the UK's post-Brexit procurement legislation may improve the situation, whilst interviews will discuss potential improvements to practices and procedures within Northern Ireland.

6. Research Methodology

6.1. Research Aim

The purpose of this study is to assess the extent of legal challenges to procurement awards within the construction sector in Northern Ireland and to understand what the key contributing factors behind such legal challenges are.

The study also researches the potential areas of improvement to the procurement processes within the construction sector in Northern Ireland with a view to lessening the risk of legal challenges.

6.2. Research Objectives

- 1. Quantify the extent of legal challenges relating to the procurement of public contracts in NI and the associated impacts of these challenges.
- 2. Establish any reoccurring root causes behind legal challenges.
- 3. Ascertain to what extent the governance arrangements and procurement processes in NI have evolved, or not, since the 2009–2011 period.
- 4. If appropriate, propose enhancements to the procurement process in NI to minimise the risk of legal challenges occurring.

Considering the shortcomings from a review of the previous research set out above, Table 3 summarises the intended approach to research and address each of these shortcomings.

Shortcoming	Approach to Address Shortcoming
Data on number of legal challenges and the time impact of any such challenges	Data collection from CoPEs
Causes of all legal challenges	Data collection from contractors and obtaining experiences of contractors and CoPEs
Why are challenges more frequent in NI?	Obtaining experiences of contractors and CoPEs
Have shortcomings in governance arrangements contributed to legal challenges?	Obtaining experiences of contractors and CoPEs

Table 3. Proposed method of researching shortcomings.

Given that the further research includes gathering data and experiences, it was clear that methodologies suitable for gathering both quantitative and qualitative primary data would have to be employed. Also, as the experiences of both sides of the procurement process were to be sought, it was evident that research should be split into three phases:

- Gathering data from CoPEs on the number of legal challenges and their impact;
- Gathering data and experiences from contractors;
- The experiences of CoPEs.

It was decided that it would be advantageous that elements of the first phase fed into the second phase and, likewise, that experiences from contractors were understood ahead of gathering views from CoPEs. Therefore, the three phases were undertaken in series rather than in parallel.

The following sections set out details of the methodology employed for each phase.

6.3. Phase 1: Number of Legal Challenges and Their Impact

As stated above, previous research investigated the frequency of legal challenges to public procurement exercises undertaken by local councils, including those in NI. However, local councils only spend c. 8% of public expenditure in NI. Therefore, this study will gather data on legal challenges to procurement exercises undertaken by central government to provide more meaningful insight.

The above section describes how procurement for central government in NI is managed by CPD and CoPEs. It was therefore decided that CPD and CoPEs should be approached to gather data on legal challenges. Therefore, those approached were procurement leads in all CoPEs, namely:

- CPD—Construction Division;
- CPD—Health Projects;
- Education Authority;

- Housing Executive;
- NI Water;
- DfI Roads and Rivers;
- Translink.

All agreed to provide details on legal challenges.

In asking them to provide data, a decision had to be made over what period CoPEs should be asked to provide data. It was considered that seven years was the most appropriate timescale: anything shorter lessens the appropriateness of the study; anything longer, and records are less likely to be comprehensive.

Therefore, procurement leads were asked the following:

- (1) In the last seven years, how many construction works public procurement exercises have been undertaken by your CoPE?
- (2) Of those, how many have had some form of legal challenge, or threat of legal challenge, that delayed the award?
- (3) For each procurement exercise that had some form of legal challenge, or threat of legal challenge, quantify the extent of the delay caused by the challenge.

Data were returned in either an Excel spreadsheet or a simple list. All data were then combined into one master spreadsheet.

6.4. Phase 2: Experiences of Contractors

6.4.1. Research Design

In order to achieve the second and third objectives, it was clear that a mixed-method study was most appropriate as this allows quantitative and qualitative data gathering to have equal priority [38]. A questionnaire-based survey was suited to the exploratory nature of this research and has been commonly deployed within construction industry procurement research to establish perceptions [39]. Qualitative data gathering is subjective, and its purpose is to determine a precise statement of the research via diagnosis, determining alternatives and discovering solutions to a problem. Focusing on descriptions and experiences, it is typically conducted where there is limited knowledge on the area of research using interview-based techniques.

6.4.2. Determining the Population

Having considered a range of approaches to selecting the contractors (e.g., approaching industry bodies for a list of members, personal knowledge, etc.), it was evident that the most appropriate method of identifying contractors was to approach the CoPEs for a list of contractors who had responded to their procurement exercises in the last seven years, so that the phase 2 research aligned with phase 1. This list included consultants, facilities management companies, specialist suppliers, etc., and totalled over 400 companies. In order to identify the appropriate population, filters were applied to this list such that the population comprised civil engineering or building main contractors headquartered in NI. This meant that the following organisations were not included in the research:

- (1) Consultants—omitted as outside the scope of this research.
- (2) Mechanical and electrical, fit-out, facilities management contractors and specialist contractors and/or suppliers—omitted because they typically tender for small, or specialist works, for which there is limited evidence of legal challenge.
- (3) Irish or GB headquartered contractors who also operate in NI or had chosen to tender a project in NI—omitted because these contractors rarely tender in NI and were therefore deemed to have limited experience of the NI procurement process.

The resultant dataset comprised a population of 62 contractors.

6.4.3. Sample Size

Having chosen to adopt a mixed-methods study for this phase, and determined the population size, this then raised the question of appropriate sample size. Ideally, for

quantitative data, probability sampling should be adopted to allow statistical inferences to be made. For gathering qualitative data, purposeful sampling (i.e., more selective) is more typically adopted [38]. If the quantitative approach were to be adopted, utilising Cochran's 1977 formulas as described by Bartlett et al. (Bartlett, Kotrlik and Higgins [40] for a population size of 62, to meet the standards of statistical rigour, all contractors would have to take part. This is a commonly accepted principle when sample sizes are small, and a census is recommended to eliminate errors [41]. Sample size in qualitative data collection is a different proposition; data saturation is the key concern [42]. Boddy concludes that in a relatively homogenous population a qualitative sample size over 30 is too unwieldy to analyse. However, Baker and Edwards advise that the sample size depends on a number of factors including practical matters and the objectives of the study [43]. On balance, it was felt impractical to capture the input from every contractor, but as the predominant objective of this phase is to gain the experiences of contractors (i.e., qualitative data), it was felt that the objectives of the study would be more than adequately achieved if experiences from 25–40 contractors were obtained.

6.4.4. Primary Data Gathering Methodology

Consideration was given to the most appropriate method for gathering the experiences of the contractors. The options considered were interviews or surveys. Queirós et al. set out the advantages and disadvantages of these methods [44] Whilst they highlight that an advantage of interviews is that a large sample can be reached, in this instance, given the size of the dataset, it was decided that surveys would be most appropriate.

Each of the 62 contractors was approached personally by telephone and the most appropriate individual in the organisation to respond on behalf of the organisation was identified. Forty-six of the individuals were spoken to directly and advised they were content if the survey was issued to them. Each of the identified individuals was sent a link to a Microsoft Forms survey. The remaining 16 were emailed to ask if they would take part but did not reply.

The survey was split into four sections:

- Respondent particulars: details on the individual's role, experience and the size of organisation they represented.
- Legal challenges: in order to provide a degree of cross-check against the data CoPEs
 had provided, respondents were asked to provide details of any legal challenges they
 had raised on public procurement exercises in the last seven years, and the reason for
 any challenge.
- Views on public procurement in NI: respondents were asked whether they felt procurement was well managed in NI, how well it was managed compared to the rest of the UK (if their organisation operated across the UK) and reasons for their responses. Having gathered data on the number of legal challenges in phase 1, respondents were asked if they felt the number of actual legal challenges was more or less than they would have anticipated.
- Areas for improvement: respondents were asked to set out details of any areas where they felt public procurement in NI could be improved.

The questions were a mix of gathering factual data, measuring views via a 5-point Likert-type scale and open text responses. All responses were anonymous (and respondents advised of this, to encourage them to respond with their true views) and collated within the Microsoft Forms software. From the 46 surveys issued, 35 responses were received (76% response rate). This represents 56% of the total population and met with the sample size requirements set out above.

6.5. Phase 3: Experiences of CoPEs

Having obtained the views of contractors, research moved on to gathering the experiences of those who issue public procurement exercises. For the reasons set out above, CoPEs were to be approached for this part of the study.

In contrast to phase 2, given the number of CoPEs' results in a small dataset, interviews were considered as the optimum research method for this phase. Unlike phase 2, the question of sample size was not an issue as all CoPEs agreed to take part.

The role of those who were interviewed, and their years of experience in procurement, are set out in Table 4. As can be seen, those interviewed were in senior positions within each CoPE.

Table 4	Dotoile	of CoDE	interviewees	
Table 4.	Details	OF COPE	interviewees.	

	Role	Years of Experience in Procurement
CoPE A	Infrastructure Procurement Lead	30 years
СоРЕ В	Head of Integrated Capital Delivery	17 years
CoPE C	Director and Deputy Director of Health Projects	40/13 years
CoPE D	Deputy Director of Procurement and Commercial	15 years
CoPE E	Deputy Director	14 years
CoPE F	Assistant Director, Procurement	10 years
СоРЕ G	Senior Category Manager, Construction Majors and Senior Category Manager, Minor Works Construction	27/20 years

Interviews were semi-structured, to facilitate comparison and analysis, and took place either in person or on Microsoft Teams. Each interview was recorded for the purposes of transcription. The three-phased approach, and the comprehensive coverage of CoPEs and contractors, ensured that primary data would be gathered to address all of the shortcomings identified in the literature review.

7. Results and Analysis

The following sections present the results of the three phases of primary data collection, and in parallel, where appropriate, provide analysis of the results and comparison with the literature review.

7.1. Extent and Impact of Procurement Challenges

In the first phase of data gathering, all CoPEs provided the numbers of procurement exercises and numbers of legal challenges in the last seven years. Some provided a full list of projects with details on project name, award value etc., whilst others simply advised the quantum of projects and challenges. Table 5 summarises the total number of procurement exercises and how many had some degree of legal challenge, indicating that approximately 3% of primary procurement exercises have been legally challenged in the last seven years. The frequency is approximately six challenges per annum.

Table 5. Summary of number of legal challenges.

Was Procurement Exercise Legally Challenged?	Count
No	1448
Yes	40
Total	1488

As set out above, research by Arrowsmith and Craven [22] indicated that, given the number of legal judgements in the past seven years in NI, the total number of legal challenges should be in the range 48 to 360; the actual figure is lower than the bottom end

of this range, but only slightly. Of the 1488 procurement exercises, contract award value was provided by CoPEs for 421 of them (28%). Table 6 indicates the total contract award value for those 421 and the total value of those within that 421 that were challenged. It indicates that, for that proportion of all procurement exercises, there is a legal challenge per every GBP 74 m of spend.

Was Procurement Exercise Legally Challenged?	Count	Sum of Contract Value
No	406	GBP 1,015,021,037
Yes	15	GBP 92,046,004
Total	421	GBP 1,107,067,041
Spend per legal challenge		GBP 73,804,469

The review of the Arrowsmith and Craven research [22] summarised in Table 6 and above, indicated a legal challenge for every GBP 31 m spend by local councils in NI. Therefore, whilst GBP 74 m per legal challenge is obviously significantly better than GBP 31 m, and probably reflective of nothing more than the fact that, typically, CoPEs procure higher value projects than councils, also reveals that the average in England, Scotland and Wales is a legal challenge every GBP 203 m of spend, indicating that NI CoPEs are almost 3 times more likely to receive a challenge than local councils in GB.

What about the impact of the legal challenges? Of the 40 legal challenges, details on the delay caused by the legal challenge were provided for 33 of them and these are presented in Figure 5. This equates to an average delay of 10 months to a project that receives a legal challenge.

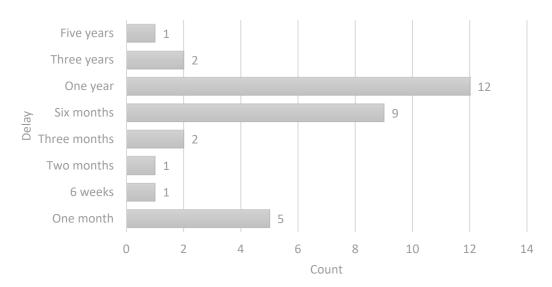


Figure 5. Time impact (delay) of legal challenges.

The impact this has on the industry is considerable: not only does the project in question not proceed, but as budgets in NI are set on a yearly basis it often backs-up the delivery of other projects.

7.2. Survey of Contractors

As set out in chapter 0, the survey of contractors gathered a mixture of quantitative and qualitative data. For qualitative data, thematic analysis was undertaken to determine patterns and to aid analysis/interpretation.

7.2.1. Respondent Particulars

As noted in Section 7.2.1, 35 survey responses were received. Figure 5 provides a breakdown of the respondents by the size of the contracting organisation they represent.

It is worth comparing this to the industry as a whole to ascertain how representative of the industry the survey is. Figure 6 is from the Inter Departmental Business Register [45], and indicates the breakdown of all construction companies in NI (employee size band 1–9 has been excluded, because it includes a huge amount of sole-traders, etc., which significantly skews the chart). The survey therefore represents approximately 5% of construction companies in the size band 20–49, 14% of 50–99 and 44% of companies with over 100 employees. The 10–19 band (roughly equating to the less than 25 employees in Figure 7) is poorly represented, but that likely reflects that fact that companies of this size are predominantly sub-contractors, do not tender directly to CoPEs, and therefore are not on their list of tenderers, and thus not approached as part of this study.

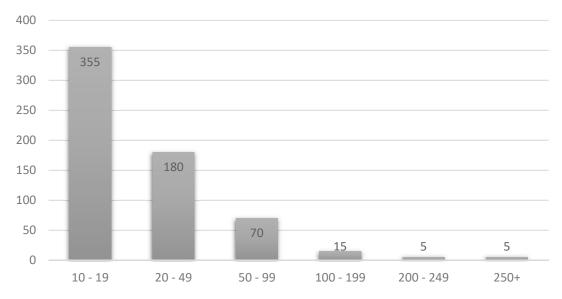


Figure 6. Number of businesses in construction sector in NI, 2022 [46].

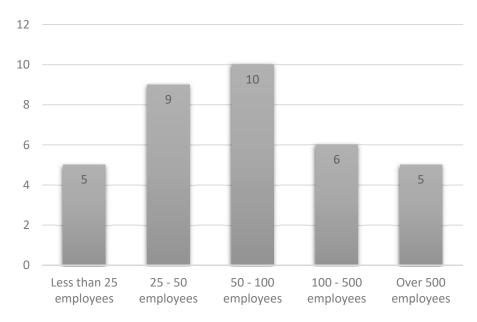


Figure 7. Respondents by size of organisation they represent.

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Figure 6 provides details on the roles of those who responded to the survey; it demonstrates that they are either very senior within the organisation and/or are in a procurement-specific role and are therefore well-placed to provide opinion on procurement in NI.

Figure 8 indicates the experience of respondents; 80% (28 out of 35) have over 10 years of experience and nearly 60% (20 out of 35) have over 20 years of experience.



Figure 8. Respondents by role title.

7.2.2. Legal Challenges—Frequency and Causes

Respondents were asked if their organisation had challenged a procurement award; 15 respondents advised they had (43%); 20 had not (57%). Of those 15, 10 had proceeded beyond an informal letter (i.e., meeting the definition of a legal challenge for the purposes of this study). Those that had done so were asked how many awards they had legally challenged; Table 7 details the count of how many times those 10 organisations had done so.

	Number of Legal Challenges
Organisation 8	10+ (assume 10)
Organisation 10	Between 5 and 10 (assume 7)
Organisation 11	2
Organisation 19	5
Organisation 24	1
Organisation 26	1
Organisation 31	2
Organisation 34	1
Organisation 35	3
Organisation 38	3
Total	35

Table 7. No. of challenges beyond informal letter.

The survey indicates 35 legal challenges in the past seven years. Whilst the dataset is not a complete list of all contractors who have tendered to the CoPEs, the 35 challenges is in alignment with the 40 challenges that CoPEs reported; therefore, any concern of under-reporting by CoPEs is not valid. Table 7 indicates that only 10 contractors have mounted the majority of legal challenges in NI; if you count those who have challenged 3 times or more, those 5 companies are responsible for 28 out of the 40 challenges (70%) CoPEs reported.

Those contractors who had challenged were asked for details of why they had done so. There were four predominant themes, or root causes, behind their reasons for legal challenges, namely:

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- (1) Correct procedure/process not adhered to—eleven instances reported;
- (2) Issues with quality marking/assessment—six instances;
- (3) Issues with how Abnormally Low Tenders were dealt with—two instances;
- (4) Issues relating to PQQs—two instances.

Comparing this list of root causes with those listed in Table 1, it is evident that the same four root causes predominate across all legal challenges, not just those that progress to legal judgement.

Two areas of particular interest in the study were to ascertain firstly if there is there a link between size of organisation and number of challenges and, secondly, whether those organisations who only work in NI are more or less likely to challenge.

Table 8 breaks down whether an organisation has or has not challenged a procurement award by size of organisation and Figure 9 does likewise, based on whether or not the organisation only operates in NI or whether they operate in NI and other parts of the UK.

Table 8. Count of responses to the question "In the past 7 years, have you challenged the award of any public procurement exercise?", broken down by size of organisation.

Size of Organisation	Have Not Challenged	Have Challenged	Total	% That Have Challenged
Less than 25 employees	4	1	5	20%
25–50 employees	4	5	9	56%
50–100 employees	6	4	10	40%
100–500 employees	5	1	6	17%
Over 500 employees	1	4	5	80%
Total	20	15	35	43%

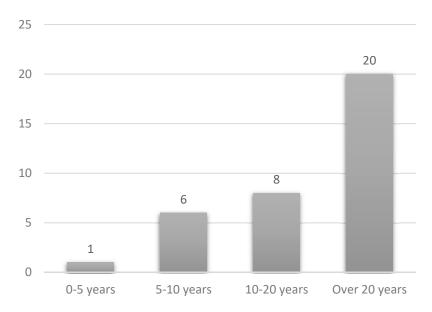


Figure 9. Respondents by number of years' experience in their role.

Table 8 indicates no clear pattern linking size of organisation to propensity to challenge, other than to note that 80% of the largest organisations (over 500 employees) have done so.

Figure 9 does not reveal any clear pattern between those who operate in NI only and those who also operate in other parts of GB. This is a surprising finding given that those who only operate in NI have no other market and given earlier research (and comments from CoPEs in their interviews, details of which are to follow) suggested that having no other market was a reason for increased legal challenges in NI.

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7.2.3. Management of Procurement in NI

Survey participants were asked if they thought, in general, procurement was well managed in NI and to explain their answer; and those that operated in other parts of the UK were asked if procurement in NI was well manged compared to the rest of the UK and again asked to explain their answer.

Of the 35 responses received, only two positive comments were made about the management of procurement in NI. A thematic analysis revealed a wide range of issues with small numbers highlighting that issue, rather than a small number of issues repeated numerous times, which was rather surprising. Table 9 highlights this point, with a total of eleven (excluding positive comments) different points being made, but none more than five times.

Table 9. Thematic analysis on views as to whether procurement in NI is well managed or not.

Theme	Count
Cumbersome/complicated/bureaucratic process	5
Lack of communication	4
Lowest price predominates	4
PQQ issues	3
Political/budget challenges	3
Unfair (to SMEs in particular)	3
Poor quality documentation	3
Issues with evaluations, particularly quality	2
Inefficient/slow	2
Issues with training/skills	2
Inconsistency across the CoPEs	2
Positive comments	2

When asked to explain responses to the question of whether or not procurement is better managed in NI compared to the rest of the UK or not, a list of points that are already included in Table 9 were made and therefore added no further insight.

Given the historic problems with procurement challenges in 2009–2011, the question as to whether respondents felt procurement is well managed in NI or not is worth considering broken down against years of experience; this is presented in Table 10

Table 10. Responses to the statement 'Procurement is well managed in NI', broken down by years of experience in role.

Procurement is Well Managed in NI?/Years of Experience in Role	Count
Agree	6
0–5 years	0
5–10 years	3
10–20 years	1
Over 20 years	2
Disagree	19
0–5 years	1
10–20 years	3
10–20 years	0
Over 20 years	15
Neutral	10
0–5 years	0
5–10 years	3
10–20 years	4
Over 20 years	3
Total	35

Only 17% of respondents (6 out of 35) agree that procurement is well managed, while more than half (19 out of 35) are of the view that it is not well managed. Fifteen of those nineteen who disagree (79%), and therefore think that procurement is not well managed, have over 20 years of experience, so worked in that role through the 2009–11 period when legal challenges to public procurement in NI were often in the headlines.

At this point in the survey, respondents were presented with the actual number of all legal challenges as advised by CoPEs, as well as the total number of procurement exercises. They were asked if the number of legal challenges was more or less than they would have expected. Figure 10 presents the results of this question.

Contractors operating in NI only:

Contractors operating in NI and GB:

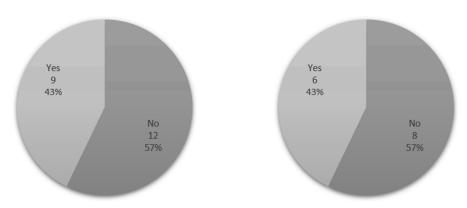


Figure 10. Count of responses to the question "In the past 7 years, have you challenged the award of any public procurement exercise?", broken down by organisation's area of operation.

In general, there is more of a bias towards fewer than expected, with perhaps a surprising number saying the number is as they would expect. However, the bias towards fewer challenges than expected suggests that procurement in NI is better managed than the industry perceives.

Table 11 presents the same data, broken down by years of experience.

Table 11. Respondents' views on the number of challenges, when presented with actual number in last seven years, broken down by years of experience.

Number of Challenges More or Less than Expected?/Years of Experience	Count
Far fewer challenges than expected	4
0–5 years	0
5–10 years	0
10–20 years	0
Over 20 years	4
Fewer challenges than expected	13
5–10 years	3
10–20 years	2
Over 20 years	8
As expected	15
0–5 years	1
5–10 years	2
10–20 years	5
Over 20 years	7
More challenges than expected	2
5–10 years	1
10–20 years	1
Far more challenges than expected	1
Over 20 years	1
Total	35

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Seventeen out of the thirty-five (49%) think there are fewer or far fewer challenges than they would have expected, i.e., procurement is better than they perceived it to be. Of those 17, 12 (71%) have over 20 years of experience.

From Table 11, those with more experience are more widely of the view that procurement is not well managed in NI, and those with more experience were also those that expressed in much higher numbers that the actual number of challenges was fewer than they expected, indicating that reality is better than their perception. It is entirely plausible that the challenges and negative press coverage in the period 2009–2011 still prejudice their opinion.

7.2.4. Areas for Improvement

Respondents were asked to provide details of any areas where they thought the procurement process could be improved. Responses were thematically analysed, and again this was a challenge due to the wide range of responses and, to a degree, lack of unified view. From the 35 respondents, there was a total of 64 suggested improvements, which could be grouped into 17 themes; Table 12 presents the results of this analysis.

Table 12. Thematic analysis	s of suggested	areas of improvement.
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Areas of Improvement	Count	
Better communications	11	
Enhance staff capabilities	7	
Improve timescales	6	
More project-specific quality submissions	5	
Resolve SMEs being disadvantaged	4	
Alternative contracting arrangements	4	
Move away from lowest price wins	4	
Reduce tender submission requirements	3	
Enhance E-portal	3	
Pipeline issues (lack of, or uncertainty)	3	
Improvements needed to tender documentation	3	
Adopt more appropriate Quality:Price ratio	3	
Simplify procurement process	3	
Limit bid costs	2	
More flexibility	1	
Policy needs updated	1	
Put in place a Procurement Ombudsman	1	

Analysing these themes, in parallel with those identified in response to how well respondents feel the procurement process is managed in NI (Table 12), there is a high degree of correlation with the recommendations/findings of previous studies/reviews, and such recommendations not being put into practice.

Previous studies/reviews have highlighted the need for enhancing staff capabilities, the need for an ombudsman, that a better pipeline would reduce frustrations, that lowest price is not achieving value for money. However, none of these findings or recommendations have been implemented, or at least not fully. There are several suggested areas that have not previously been identified; the need for better communications and for more project-specific quality submissions are the two areas that predominate that have not been highlighted in previous research.

7.3. Interviews with CoPEs

Interviews with each CoPE were reviewed in line with the framework proposed for thematic analysis by Ritchie and Spencer [47] and summarised by Srivastava and Thomson [48].

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7.3.1. Legal Challenges—Causes and Impacts

The number of legal challenges and related time impacts were gathered in phase 1 of the study; therefore, the interviews focused on causes.

The previous literature has suggested NI contractors are more litigious than in the rest of the UK and perceptions of a 'claims culture' exist contributing to a higher frequency of legal challenge; to understand how the procurement leads in each CoPE felt about the state of the industry, they were asked if they felt that contractors in NI are more litigious than elsewhere in the UK, and if so, why. All seven interviewees were firmly of the view that NI contractors are more litigious. Two reasons predominate:

- (1) Five of the seven were of the view that it is because of the nature of the market in NI, with opportunities limited, at times because of the political situation, funding challenges, etc. Some felt that there are more contractors in NI than in other parts of the UK, and as such construction is more vital to the economy in NI, with more contractors competing over fewer opportunities compounding the issue. Also, the market is quite constrained either physically (by the Irish Sea, limiting opportunities to work in GB for some contractors) or geophysically (i.e., the Republic of Ireland is a different country, with different employment law, tax, legislation, etc.).
- (2) Three of the seven highlighted that it only costs GBP 261 to serve a writ as a contributing factor.

These are of course just perceptions and are worth challenging. The political instability, lack of clear pipeline and funding challenges are self-evident, and must contribute to an uncertain environment. However, in 2019 (i.e., the last full year before the COVID pandemic) the construction sector accounted for 8% of NI's Gross Value Added (GVA) [46]; the equivalent figure for the whole of the UK is 6% [49]. In terms of employment, across the whole of the UK, the construction sector accounts for 7% of all jobs [50], whereas in NI that figure is 6% [51]. The perception, therefore, that the construction sector is more vital to the economy in NI compared to the UK as a whole, thus making contractors in NI more 'desperate', does not appear to be valid. Also, given that it has been demonstrated in phase 2 of this research that there is no clear link between whether a contractor only operates in NI, or across other parts of the UK, and their propensity to instigate a legal challenge, this would suggest that physical/geophysical constraints do not make contractors in NI any more litigious.

The CoPEs were asked what aspect of the procurement process poses the biggest risk with respect to a legal challenge; as expected given previous findings, there were only three areas identified across the seven interviews: the assessment of quality submissions, receiving abnormally low tenders and some form of action by the contractor (e.g., omitting a document, not getting something signed, etc.) that the process has not defined how such action would be dealt with.

When asked if, in order to minimise the threat of legal challenges, the procurement process in NI has become bureaucratic, all seven advised that they felt it has become overly cumbersome/process-driven and is leading to conservatism. They feel the process is stopping them from testing what they really want to test at times, be it technical, in relation to constraints on a project or experience of staff. Even though the process is formulaic, they advised that the process can be very slow. As set out in Figure 11 in their 2018 research McArdle and Gunning [4] identified a vicious circle causing low tenders; however, legal challenges are causing a vicious circle in general. The more legal challenges there are, the more bureaucratic and formulaic the process is becoming, which is slowing the process of awarding contracts, which is frustrating contractors, contributing to the environment that makes contractors more likely to mount a legal challenge, as per Figure 12.

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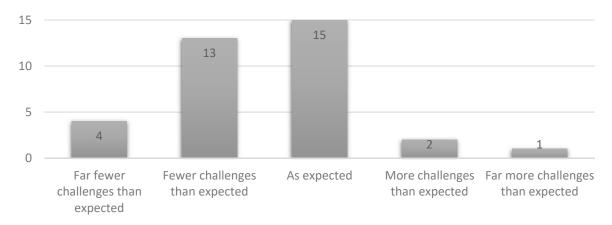


Figure 11. Respondents' views on the number of challenges, when presented with actual number in last seven years.

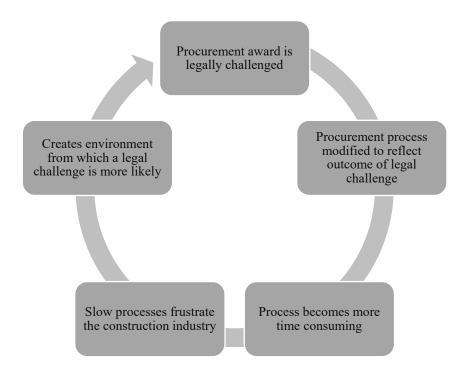


Figure 12. Vicious circle created by legal challenges.

Interviewees were asked if the fear of legal challenge was resulting in assessment criteria that are subjective (i.e., quality) being given less importance. Four CoPEs advised that they have moved away from any subjective assessment (quality, where it is assessed, is assessed objectively), with one of these four advising that they award solely on price in all their tenders, and two doing so on all their minor works tenders (i.e., those under a GBP 5.3 m threshold). The other three CoPEs advised that they still consider each procurement on its merits, consider the complexity of each project, etc., and structure their quality assessment accordingly.

Those who have moved away from subjective assessment, or even to price only awards, do recognise that that can become a 'race to the bottom' and that there are issues associated with that. However, when asked specifically what impacts accepting tenders predominantly on price have on projects in the delivery phase, no specific issues were identified. The one CoPE who has moved to 100% price assessment on all tenders advised that, despite their prequalification stage being pass/fail and all contractors who meet the minimum requirements

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being invited to tender, they struggle to get many tenderers. It would appear that not many contractors are interested in taking part in a 'race to the bottom'.

7.3.2. Management of Public Procurement

The interviewees were asked for their views on NI procurement policy, the Procurement Board and their views on the management of procurement in NI generally.

The fact the procurement policy document has not been updated since 2014 is not particularly troubling to any of the procurement leads. Some say, however, that it is indicative of the system. Most respondents (five out of seven) highlighted that it is PGNs, and now the PPNs, that shape the day-to-day operation of procurement in NI in any event. One CoPE made the point that " . . . government needs to decide, do they want to get projects procured or do they want to use procurement to do all these other things that should be done anyhow . . . procurement has become a dumping ground . . . ". This point is worth noting, as it contrasts with the ambition of the new Toolkits, which is that procurement should assist in delivering high-level government commitments.

Views were mixed on the Procurement Board and how well it operates. Three felt the Board is operating well, two felt otherwise, with two being non-committal. Those that thought it is operating well were supportive of the changes instigated in 2020. However, interviewees felt a range of issues still exist, including:

- ► Too much political influence;
- Guidance can be unclear, leaving CoPEs to interpret its use;
- ► Changes are slow to progress through the Board;
- ► There is a particular worry about a gap being formed between PPNs and the new Toolkits.

7.3.3. Areas for Improvement

Finally, interviewees were asked to identify areas of the procurement process or governance that could be improved. As with the responses from the contracting organisations to the same question, there was a range of themes for potential improvements, rather than a unified view. Table 13 details these themes.

Table 13. Centres of Procurement Excellence suggested areas of improvement (note: * indicates the area was also identified by contractors).

Areas for Improvement	Count
Political stability, reliability of funding/pipeline *	4
More industry engagement (e.g., working groups but also during tender processes) *	3
More resources, appropriately skilled *	2
Better system to reward good performance in live projects in subsequent tenders	1
Better database/replacement for construction line *	1
More CoPE interaction/collaboration	1
New tendering models to be considered *	1
Move away from quality assessments	1

Four of the first five in the above list (marked with an *) were also identified as areas for improvement by contractors. If those working in procurement, on both sides of the tendering process, agree on many areas of required improvements, the question must be, what is stopping these improvements from being put in place? If we set aside the point related to a better database and consider just the top three points in Table 13, two out of these three are political; without political resolve, the issues of funding and pipeline certainty cannot be rectified. Likewise, without increased funding, additional and better skilled resources cannot be provided to procurement departments. More industry engagement is within the capacity of CoPEs to rectify; however, the fear of legal challenge stymies this engagement. Centres of Procurement Excellence therefore either have to be brave or else

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hope other improvements are made that reduce the likelihood of legal challenge, and then rather than creating a vicious circle, perhaps a circle of improvement can be created.

All seven CoPEs provided details of their legal challenges in the last seven years and took part in interviews; it can be concluded that the results are comprehensive and represent the current position across the entire industry, unlike previous research. Thirty-five contractors provided details of their experiences of the procurement process in NI; the quantum of responses provides confidence that the views encapsulate the views of the entire contracting side of the industry. The comprehensive nature of the research allows conclusions to be reached and recommendations made with a high degree of confidence.

8. Conclusions and Recommendations

The overarching aim of this study was to establish how frequent legal challenges occur in public procurement within the construction sector in NI and if procurement has improved since the problematic period 2009–2011.

The survey-based data revealed that 40 out of 1488 procurement exercises undertaken by CoPEs in the last seven years had been legally challenged, resulting in a delay of, on average, 10 months. Typically, a legal challenge will be received for every GBP 74 m of expenditure. It was demonstrated that this is approximately three times more frequent than in local government procurement in the rest of the UK. The frequency of approximately six challenges per year compares to a reported twelve challenges per year in the period December 2011. By this measure, improvements have been made in the last 10 years.

The extent of challenge is lower than the contracting side of the industry anticipated, with contractors' responses suggesting that those who were involved in procurement on the contracting side in 2009–2011 still have their views influenced by the events of that period.

Four root causes of legal challenges were identified: Abnormally Low Tenders, processes not followed, issues with the assessment of quality scores and issues relating to PQQ submissions.

The political situation in NI contributes to uncertainty in the construction industry that, in part, according to the experiences of the CoPEs, results in contractors in NI being more litigious than those in the rest of the UK.

It should be noted that the NI Public Procurement Policy document is outdated, having not been updated since 2014. Whilst CoPEs concede this does not affect day-to-day operations, as one CoPE noted "that is indicative of the system".

The literature review revealed that numerous studies had been undertaken into governance arrangements and that several recommendations that may have had positive impacts on the frequency of legal challenge have not been implemented.

Whilst there have been calls for the greater centralisation of procurement in NI, to minimise the risk of legal challenges, this study concludes that the arrangement in place presently, with a central body (CPD) and a limited number of specialist CoPEs, is the most robust arrangement.

Procurement in NI is in a state of flux; new Toolkits are being consulted upon and new legislation is making its way through the UK parliament. It is recognised within the Procurement Board, within CoPEs and by legal professionals that there is an increased risk of legal challenges when the new legislation and guidance is in place.

The procurement process is often used as an enabler for government initiatives; this is likely to become more prevalent once the new Toolkits are in place.

A review of tender documents issued by CoPEs revealed inconsistencies and areas where current practice is at odds with the literature and recent reviews. The concept of the most economically advantageous tender, which represents a trade-off between quality and price, has been lost as the process of assessing tenders has become ever more bureaucratic. The quality assessment has, in effect, become an 'essay writing competition'; it is hard to see how clients are receiving value when questions are often generic, not focused on the project in question, contractors have become so well versed in answering them, so all receive similar high scores, and lowest price often ends up winning as a result.

Contractors and CoPEs feel there are a wide range of areas for improvement, and many of these areas overlap. The areas where both agree improvements are needed are:

- Political stability and the reliability of funding/pipeline.
- There needs to be more industry engagement; this includes working groups, but also better communication between CoPEs and contractors throughout tender periods.
- Centres of Procurement Excellence need more suitably skilled resources.

It is clear from the above that, whilst improvements have been made and the procurement arrangements in place in NI are adequate, that is all they are; significant improvements need to be made that, it would appear, would reduce the frequency of legal challenge.

Improvements at all levels in the procurement process will reduce the risk of legal challenges occurring. The recommendations from this study are split into the following levels:

- (1) Political;
- (2) Governance;
- (3) Tender documents.

In some areas, further research is necessary, and where applicable, this is identified.

8.1. Political

The unstable political situation in NI contributes to an environment in which contractors are more litigious than UK counterparts. Contractors need to know where their next opportunities are. To this end, whilst attempts have been made to provide a robust pipeline of opportunities, this is frustrated by year-to-year budgets, the lack of a functioning Executive and other reasons. Further efforts must be made in this area; however, the best mechanism(s) by which pipelines can be made more robust is/are highly complex, and further research is required in this area.

The procurement process itself should not be used as the method for implementing current political policy. Any such requirements should be included as requirements within contract documents, not used as a mechanism for scoring contractors. Centres of Procurement Excellence must be allowed to focus on procuring contractors.

More funding should be made available to allow CoPEs to employ additional high-skilled resources.

8.2. Governance

The NIPPP should be updated immediately, and continually updated as necessary. More comprehensive guidance should be provided to both CoPEs and contractors, in line with that provided in Scotland and Ireland.

There needs to be much more widespread use of standardised documents and a standardised approach to matters such as quality: price ratios, mechanisms for awarding scores, etc. This should be enshrined in the new Toolkits, and the use of the Toolkits should be mandatory. The selective adoption of the Toolkit can only lead to confusion in the industry, which will undoubtedly lead to legal challenge.

As recommended in previous studies, a Supply Chain Ombudsman, or something in line with the Tender Advisory Service in place in the Republic of Ireland, should be created.

Early market engagement and an ongoing process for engaging with tenders throughout the tender process should be defined in the Toolkits.

8.3. Tender Documents

The following recommendations are aimed at minimising challenges related to tender assessments:

- Better guidance should be provided to allow consistency on quality: price ratios.
- The scoring of quality should be such that highest quality score gets full quality marks, to balance lowest price getting full price score.
- Quality questions must become more project-specific and meet the threshold of 'will the contractor's answer to this question ensure a better quality outcome?' Responses

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- must become contractual commitments. The industry must move away from an essay-writing culture and become a proper trade-off between quality and price.
- Quality questions must be scored out of 10 or 20; it is not right that one mark dropped is 20% of the available score gone (as is the case when questions are marked out of 5).
 Further research should be undertaken to establish optimum scoring mechanisms and marking criteria/guidance.
- Word counts must properly afford tenderers the opportunity to respond to quality questions in full detail.
- With regard to ALTs, there is no easy answer to that problem, and further research should be undertaken to establish if any better solution to dealing with ALTs has been developed elsewhere.

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References

- 1. Committee for Finance and Personnel. Report on the Inquiry into Public Procurement in Northern Ireland. 2010. Available online: http://www.niassembly.gov.uk/globalassets/documents/committees/2007-2011/finance-and-personnel/reports/public-procurement-in-ni/report-on-the-inquiry-into-public-procurement-in-ni.pdf (accessed on 2 November 2021).
- 2. McCloskey, J. Public Procurement Challenges in Northern Ireland. 2012. Available online: www.scl.org.uk (accessed on 26 September 2021).
- 3. NIAO. Major Capital Projects. 2019. Available online: https://www.niauditoffice.gov.uk/files/niauditoffice/226718%20NIAO% 20Major%20Capital%20Projects_FINAL%20LW%20RES%20Complete.pdf (accessed on 23 February 2023).
- 4. McArdle, G.; Gunning, J. Enhancing value for money in public procurement of Northern Ireland construction projects. *Proc. Inst. Civ. Eng. Manag. Procure. Law* **2018**, 171, 207–219. [CrossRef]
- 5. Judiciary, N. Judicial Decisions and Directions. 2022. Available online: https://www.judiciaryni.uk/judicial-decisions?search_api_views_fulltext=PQQ&action=search (accessed on 21 February 2022).
- 6. Dyer, T. Better procurement is essential to transform infrastructure delivery in this time of crisis. *Proc. Inst. Civ. Eng. Civ. Eng.* **2022**, 175, 52. [CrossRef]
- 7. Northern Ireland Executive. New Era for Public Procurement as Social Value to Be Scored in Government Contracts. 2021. Available online: https://www.northernireland.gov.uk/news/new-era-public-procurement-social-value-be-scored-government-contracts-murphy (accessed on 17 August 2022).
- 8. Northern Ireland Act. 1998. Available online: https://www.legislation.gov.uk/ukpga/1998/47/contents (accessed on 23 July 2022).
- 9. Construction & Procurement Delivery. Selection and Tender Evaluation Procedures. 2020.
- 10. Central Procurement Directorate. Northern Ireland Public Procurement Policy. 2014. Available online: https://www.finance-ni.gov.uk/topics/procurement/public-procurement-policy-northern-ireland (accessed on 23 February 2023).
- 11. Department of Finance. Construction Procurement Toolkit. 2022.
- 12. Department of Finance. Procurement Board Summary Notes. 2022. Available online: https://www.finance-ni.gov.uk/publications/procurement-board-summary-notes (accessed on 23 January 2022).
- 13. Department of Finance. Procurement Policy Notes (PPNs). 2021. Available online: https://www.finance-ni.gov.uk/articles/procurement-policy-notes-ppns (accessed on 14 August 2022).
- 14. Department of Finance. Procurement Guidance Notes (PGNs). 2022. Available online: https://www.finance-ni.gov.uk/articles/procurement-guidance-notes-pgns (accessed on 10 August 2022).
- 15. Department of Finance Sourcing and Construction Toolkits. 2022. Available online: https://www.finance-ni.gov.uk/publications/sourcing-and-construction-toolkits (accessed on 14 August 2022).
- 16. Cabinet Office. Common Framework for Public Procurement. 2022. Available online: https://www.gov.uk/government/collections/uk-common-frameworks (accessed on 23 February 2023).
- 17. Department of Finance. Annual Procurement Report. 2022. Available online: https://www.finance-ni.gov.uk/sites/default/files/publications/dfp/AnnualProcurementReportJune2022.pdf (accessed on 5 July 2022).

Buildings **2023**, 13, 773 31 of 32

18. Cabinet Office. The Construction Playbook. 2020. Available online: https://www.gov.uk/government/publications/the-construction-playbook (accessed on 13 March 2021).

- 19. Clear, S.; Cahill, D. An Empirical Study of the Frequency and Distribution of Judicial Review in Resolving Public Procurement Disputes Within the UK: Proposals for Legal and Policy Reform. *Eur. Public Law* **2021**, 27, 131–166.
- 20. HM Treasury. Public Expenditure Statistical Analyses. 2021.
- 21. Kenway, P.; Petrie, I. Devolution within Northern Ireland. 2018.
- 22. Arrowsmith, S.; Craven, R. Public procurement and access to justice: A legal and empirical study of the UK system. *Public Procure. Law Rev.* **2016**, *6*, 227–252.
- 23. Bros, H.; Knibbe, J. Procurement-Recent developments in Northern Ireland Personnel (No.2) [2008] NIQB 91'. 2008.
- 24. Eadie, R.; Rodgers, J.; McKeown, C.; Smyth, P. An analysis of public sector prequalification procedures in Northern Ireland. *Int. J. Procure. Manag.* **2012**, *5*, 273–288. [CrossRef]
- 25. OECD. The governance of public procurement in Northern Ireland. *Implement. Joined-Up Gov. A Common Purp.* **2016**, 369–390. [CrossRef]
- 26. Northern Ireland Assembly Public Accounts Committee. Report on Major Capital Projects. 2020.
- 27. Pidgeon, C. Centralisation Reforms of Public Procurement in the Republic of Ireland and Scotland. 2020. Available online: https://www.finance-ni.gov.uk/articles/procurement-board-membership-roles-and-responsibilities (accessed on 24 July 2022).
- 28. Šerpytis, K.; Vengrauskas, V.; Gineitiene, Z. Evaluation of Financial Effects of Public Procurement Centralisation. *Ekonomika* **2011**, 90, 104–119. [CrossRef]
- 29. Patrucco, A.S.; Walker, H.; Luzzini, D.; Ronchi, S. Which shape fits best? Designing the organizational form of local government procurement. *J. Purch. Supply Manag.* **2019**, 25, 100504. [CrossRef]
- 30. Patrucco, A.S.; Agasisti, T.; Glas, A.H. Structuring Public Procurement in Local Governments: The Effect of Centralization. Standardization and Digitalization on Performance. *Public Perform. Manag. Rev.* **2020**, *44*, 630–656. [CrossRef]
- 31. Petersen, O.H.; Jensen, M.D.; Bhatti, Y. The effect of procurement centralization on government purchasing prices: Evidence from a field experiment. *Int. Public Manag. J.* **2020**, *25*, 24–42. [CrossRef]
- 32. Ballesteros-Pérez, P.; Skitmore, M.; Pellicer, E.; González-Cruz, M.C. Scoring rules and abnormally low bids criteria in construction tenders: A taxonomic review. *Constr. Manag. Econ.* **2015**, *33*, 259–278. [CrossRef]
- 33. SIGMA/OECD. Public Procurement Brief 35: Abnormally Low Tenders. 2016.
- 34. Scottish Government. Construction Procurement Handbook, Chapter 8: Abnormally Low Tenders'. 2018. Available online: http://www.gov.scot/publications/construction-procurement-handbook/pages/8/ (accessed on 23 August 2022).
- 35. Ballesteros-Pérez, P.; Skitmore, M.; Pellicer, E.; Zhang, X. Scoring Rules and Competitive Behavior in Best-Value Construction Auctions. *J. Constr. Eng. Manag.* **2016**, 142, 04016035. [CrossRef]
- 36. Bergman, M.A.; Lundberg, S. Tender evaluation and supplier selection methods in public procurement. *J. Purch. Supply Manag.* **2013**, *19*, 73–83. [CrossRef]
- 37. Stilger, P.S.; Siderius, J.; van Raaij, E.M. A comparative study of formulas for choosing the economically most advantageous tender. *J. Public Procure.* **2017**, *17*, 88–124. Available online: https://www-scopus-com.ezp.lib.cam.ac.uk/record/display.uri? eid=2-s2.0-85018292548&origin=resultslist&sort=plf-f&src=s&st1=A+comparative+study+of+formulas+for+choosing+the+ economically+most+advantageous+tender&sid=3c59a5a17b019f153b50cb7a12a386cd&sot=b&sd (accessed on 26 August 2022). [CrossRef]
- 38. Sandelowski, M. Combining Qualitative and Quantitative Sampling. Data Collection, and Analysis Techniques in Mixed-Method Studies. *Res. Nurs. Health* **2000**, 23, 246–255. Available online: https://onlinelibrary-wiley-com.ezp.lib.cam.ac.uk/doi/pdf/10.1 002/1098-240X%28200006%2923%3A3%3C246%3A%3AAID-NUR9%3E3.0.CO%3B2-H (accessed on 21 July 2022). [CrossRef]
- 39. Loosemore, M.; Hsin, Y.Y. Customer-focused benchmarking for facilities management. Facilities 2001, 19, 464–476. [CrossRef]
- 40. Bartlett, J.E.; Kotrlik, J.W.; Higgins, C.C. Organizational Research: Determining Appropriate Sample Size in Survey Research. *Inf. Technol. Learn. Perform. J.* **2001**, *19*, 43.
- 41. Singh, A.S.; Masuku, M.B. Sampling techniques & determination of sample size in applied statistics research: An overview. *Int. J. Econ. Commer. Manag.* **2014**, 2, 1–22. Available online: http://ijecm.co.uk/ (accessed on 21 July 2022).
- 42. Boddy, C.R. Sample size for qualitative research. Qual. Mark. Res. 2016, 19, 426–432. [CrossRef]
- 43. Baker, S.E.; Edwards, R. How many qualitative interviews is enough? Expert voices and early career reflections on sampling and cases in qualitative research. *NCRM Methods Rev.* **2012**, 8–11.
- 44. Queirós, A.; Faria, D.; Almeida, F. Strengths and Limitations of Qualitative and Quantitative Research Methods. Innovation and Entrepreneurship View project Observatory of Portuguese Academic Spin-offs View project; Strengths and limitations of qualitativ. *Eur. J. Educ. Stud.* 2017, 3, 369–387.
- 45. Northern Ireland Statistics and Research Agency (2022a) Current Publication and IDBR Tables, Northern Ireland Business 2022. Available online: https://www.nisra.gov.uk/publications/current-publication-and-idbr-tables-1 (accessed on 14 August 2022).
- Northern Ireland Statistics and Research Agency. Northern Ireland Quarterly Construction Bulletin. 2021.
- 47. Ritchie, J.; Spencer, L. Qualitative Data Analysis for Applied Policy Research. In *The Qualitative Researcher's Companion*; Routledge: London, UK, 2012; pp. 305–329.
- 48. Srivastava, A.; Thomson, S. Framework Analysis: A Qualitative Methodology for Applied Policy Research. J. Adm. Gov. 2009, 72.

Buildings 2023, 13, 773 32 of 32

49. Office for National Statistics. GDP Output Approach—Low-Level Aggregates. 2022. Available online: https://www.ons.gov.uk/economy/grossdomesticproductgdp/datasets/ukgdpolowlevelaggregates (accessed on 12 July 2022).

- 50. House of Commons Library. Construction Industry: Statistics and Policy. 2019. Available online: www.parliament.uk/commons-library%7Cintranet.parliament.uk/commons-library%7Cpapers@parliament.uk%7C@commonslibrary (accessed on 12 July 2022).
- 51. Northern Ireland Statistics and Research Agency. NI Economy & Labour Market—A Summary of Key Statistics. 2022. Available online: https://www.nisra.gov.uk/publications/ni-economy-labour-market-summary-key-statistics (accessed on 12 July 2022).

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