# 2. Survey of Existing Data Sources

## This Document is Generated completely Automatically using a python program and ChatGPT API. Because we did not have access to gpt-4 API at the time, we used gpt-3.5 model in our API calls.

## The lines in green are the prompts sent to ChatGPT. Lines in purple are ChatGPT’s answers to prompts. The pros and cons section is also generated with ChatGPT but to separate it from the prompts they are colored in Black.

## The text in italic and black in the conclusion section is added after the document has been generated.

*This single paragraph also added after document creation by program: The Model used in this document is gpt-4. We got access to gpt-4 at a later stage.*

## 2.1. The Space of Parts of Work

### 2.1.1. Organisations

We are seeking to identify the companies that provide contract for construction of domestic buildings. Optionally focused on a particular region such as NI or the UK.

You are an expert data analyst who excels at finding public data sources that are helpful for analysis.You are helping a company that provides contract for construction of domestic buildings to the UK government. we want to compile a list of organizations, each possessing distinct characteristics, which can serve as a foundation for subsequent exploration. Every organization holds the potential to initiate comprehensive investigations. Your task is to pinpoint the companies that do contract for construction of domestic buildings. Optionally, this can extend to a specific region like the UK government or similar geographical areas. Provide most up to date information and give usable links to obtain useful data. you can search internet multiple times. if you search internet provide a search prompt to help your task.

1. \*\*Companies House\*\*: This is the UK government's official register of UK companies. You can search for companies by their name, and the results will show you the company's address, the nature of their business, and their filing history. This can be a good starting point to identify companies that do contract for construction of domestic buildings.  
 - Website: https://find-and-update.company-information.service.gov.uk/  
 - Search Prompt: "Construction" or "Building Contractors"  
  
2. \*\*The Construction Index\*\*: This is a comprehensive online resource for the UK construction industry. It includes a directory of construction companies and suppliers, as well as news and information about the industry.  
 - Website: https://www.theconstructionindex.co.uk/  
 - Search Prompt: "Domestic Building Contractors"  
  
3. \*\*UK Construction Online\*\*: This is another comprehensive resource for the UK construction industry. It includes a directory of construction companies, as well as news, project leads, and market intelligence.  
 - Website: https://www.ukconstructionmedia.co.uk/  
 - Search Prompt: "Domestic Building Contractors"  
  
4. \*\*Federation of Master Builders (FMB)\*\*: This is a trade association that represents small and medium-sized construction companies in the UK. You can search their directory to find member companies that specialize in domestic building construction.  
 - Website: https://www.fmb.org.uk/  
 - Search Prompt: "Domestic Building Contractors"  
  
5. \*\*Construction Industry Council (CIC)\*\*: This is a forum for professional bodies, research organizations, and specialist business associations in the UK construction industry. You can search their member directory to find organizations that are involved in domestic building construction.  
 - Website: http://cic.org.uk/  
 - Search Prompt: "Domestic Building Contractors"  
  
6. \*\*National Federation of Builders (NFB)\*\*: This is another trade association that represents builders and contractors in the UK. You can search their member directory to find companies that specialize in domestic building construction.  
 - Website: https://www.builders.org.uk/  
 - Search Prompt: "Domestic Building Contractors"  
  
7. \*\*Open Corporates\*\*: This is the largest open database of companies in the world. You can search for UK companies by their name or by their nature of business.  
 - Website: https://opencorporates.com/  
 - Search Prompt: "Construction" or "Building Contractors" in the UK  
  
8. \*\*Data.gov.uk\*\*: This is the UK government's open data portal. You can search for datasets related to the construction industry, which may include information about companies that contract for construction of domestic buildings.  
 - Website: https://data.gov.uk/  
 - Search Prompt: "Construction" or "Building Contractors"

chatgpt answer with google search:

Here are some resources that can help you find the companies that provide contracts for the construction of domestic buildings to the UK government:  
  
1. [Contracts Finder - GOV.UK](https://www.gov.uk/contracts-finder): This is a government website where you can search for information about contracts worth over £12,000 (including VAT) with the government and its agencies.  
  
2. [UK – Building Construction Work Contracts - bidstats](https://bidstats.uk/tenders/building-construction-work/): This website provides information about UK government contracts related to building construction work.  
  
3. [UK – Building Construction Contracts - bidstats](http://bidstats.uk/tenders/?q=building+construction): Another page on the same website, this one provides procurement notices containing building construction.  
  
4. [Contracts awarded for £1bn public sector new build housing framework in England](https://www.cpconstruction.org.uk/news/news/contracts-awarded-for-new-build-housing-framework-in-england/): This news article provides information about suppliers who have been awarded a place on a new four-year, £1bn new build framework to deliver public sector construction projects.  
  
5. [Search for Construction Contracts | Tenders Direct](https://www.tendersdirect.co.uk/Construction/Default\_Construction.aspx): This website collates every UK and ROI notice related to construction tenders in one place.  
  
Please note that the information on these websites is subject to change and it's always a good idea to verify the information from the official sources.

chatgpt answer with bing search:

Based on my search, here are some of the top companies that contract for the construction of domestic buildings in the UK:  
  
1. [Balfour Beatty](https://www.balfourbeatty.com/): This is the UK’s biggest contractor. Some of their recent projects include the M60 Palatine Road Bridge project in Manchester, the Swanswell Viaduct project in Coventry, and the Glasgow Queen Street station redevelopment.  
  
2. [Kier](https://www.kier.co.uk/): Kier is another leading construction and infrastructure services company in the UK. They have a wide range of expertise including construction, highways, infrastructure, utilities, housing, maintenance, and property facilities management.  
  
3. [Morgan Sindall](https://construction.morgansindall.com/): Morgan Sindall Construction has a network of offices across the UK and has completed a variety of projects. One of their recent projects is the Britannia Leisure Centre and the City of London Academy Shoreditch Park in the London Borough of Hackney.  
  
Please note that the information is up to date as of the time of the search. For the most recent information, you may want to visit the companies' websites or contact them directly.

You are an expert data analyst who excels at finding public data sources that are helpful for analysis.You are helping a company that provides contract for construction of domestic buildings  
to the UK government. You have identified a list of organizations, each possessing distinct characteristics, which can serve as a foundation for subsequent exploration. Every organization holds the potential to initiate comprehensive investigations. The list of companies you identified is within the text delimited with triple back ticks:  
```1. \*\*Companies House\*\*: This is the UK government's official register of UK companies. You can search for companies by their name, and the results will show you the company's address, the nature of their business, and their filing history. This can be a good starting point to identify companies that do contract for construction of domestic buildings.  
 - Website: https://find-and-update.company-information.service.gov.uk/  
 - Search Prompt: "Construction" or "Building Contractors"  
  
2. \*\*The Construction Index\*\*: This is a comprehensive online resource for the UK construction industry. It includes a directory of construction companies and suppliers, as well as news and information about the industry.  
 - Website: https://www.theconstructionindex.co.uk/  
 - Search Prompt: "Domestic Building Contractors"  
  
3. \*\*UK Construction Online\*\*: This is another comprehensive resource for the UK construction industry. It includes a directory of construction companies, as well as news, project leads, and market intelligence.  
 - Website: https://www.ukconstructionmedia.co.uk/  
 - Search Prompt: "Domestic Building Contractors"  
  
4. \*\*Federation of Master Builders (FMB)\*\*: This is a trade association that represents small and medium-sized construction companies in the UK. You can search their directory to find member companies that specialize in domestic building construction.  
 - Website: https://www.fmb.org.uk/  
 - Search Prompt: "Domestic Building Contractors"  
  
5. \*\*Construction Industry Council (CIC)\*\*: This is a forum for professional bodies, research organizations, and specialist business associations in the UK construction industry. You can search their member directory to find organizations that are involved in domestic building construction.  
 - Website: http://cic.org.uk/  
 - Search Prompt: "Domestic Building Contractors"  
  
6. \*\*National Federation of Builders (NFB)\*\*: This is another trade association that represents builders and contractors in the UK. You can search their member directory to find companies that specialize in domestic building construction.  
 - Website: https://www.builders.org.uk/  
 - Search Prompt: "Domestic Building Contractors"  
  
7. \*\*Open Corporates\*\*: This is the largest open database of companies in the world. You can search for UK companies by their name or by their nature of business.  
 - Website: https://opencorporates.com/  
 - Search Prompt: "Construction" or "Building Contractors" in the UK  
  
8. \*\*Data.gov.uk\*\*: This is the UK government's open data portal. You can search for datasets related to the construction industry, which may include information about companies that contract for construction of domestic buildings.  
 - Website: https://data.gov.uk/  
 - Search Prompt: "Construction" or "Building Contractors"  
Here are some resources that can help you find the companies that provide contracts for the construction of domestic buildings to the UK government:  
  
1. [Contracts Finder - GOV.UK](https://www.gov.uk/contracts-finder): This is a government website where you can search for information about contracts worth over £12,000 (including VAT) with the government and its agencies.  
  
2. [UK – Building Construction Work Contracts - bidstats](https://bidstats.uk/tenders/building-construction-work/): This website provides information about UK government contracts related to building construction work.  
  
3. [UK – Building Construction Contracts - bidstats](http://bidstats.uk/tenders/?q=building+construction): Another page on the same website, this one provides procurement notices containing building construction.  
  
4. [Contracts awarded for £1bn public sector new build housing framework in England](https://www.cpconstruction.org.uk/news/news/contracts-awarded-for-new-build-housing-framework-in-england/): This news article provides information about suppliers who have been awarded a place on a new four-year, £1bn new build framework to deliver public sector construction projects.  
  
5. [Search for Construction Contracts | Tenders Direct](https://www.tendersdirect.co.uk/Construction/Default\_Construction.aspx): This website collates every UK and ROI notice related to construction tenders in one place.  
  
Please note that the information on these websites is subject to change and it's always a good idea to verify the information from the official sources.  
Based on my search, here are some of the top companies that contract for the construction of domestic buildings in the UK:  
  
1. [Balfour Beatty](https://www.balfourbeatty.com/): This is the UK’s biggest contractor. Some of their recent projects include the M60 Palatine Road Bridge project in Manchester, the Swanswell Viaduct project in Coventry, and the Glasgow Queen Street station redevelopment.  
  
2. [Kier](https://www.kier.co.uk/): Kier is another leading construction and infrastructure services company in the UK. They have a wide range of expertise including construction, highways, infrastructure, utilities, housing, maintenance, and property facilities management.  
  
3. [Morgan Sindall](https://construction.morgansindall.com/): Morgan Sindall Construction has a network of offices across the UK and has completed a variety of projects. One of their recent projects is the Britannia Leisure Centre and the City of London Academy Shoreditch Park in the London Borough of Hackney.  
  
Please note that the information is up to date as of the time of the search. For the most recent information, you may want to visit the companies' websites or contact them directly.```  
Identify public data sources to obtain useful information about these organisations. Provide most up to date information and give usable links to obtain useful data. you can search internet [3] times. if you search internet provide a search prompt that reduces the number of searches you need and helps you perform your task.

1. \*\*Companies House\*\*: This is the official register of UK companies. You can find information about a company's address, the nature of their business, and their filing history. This can be a good starting point to identify companies that contract for the construction of domestic buildings.  
 - Website: [Companies House](https://find-and-update.company-information.service.gov.uk/)  
 - Search Prompt: "Construction" or "Building Contractors"  
  
2. \*\*The Construction Index\*\*: This is a comprehensive online resource for the UK construction industry. It includes a directory of construction companies and suppliers, as well as news and information about the industry.  
 - Website: [The Construction Index](https://www.theconstructionindex.co.uk/)  
 - Search Prompt: "Domestic Building Contractors"  
  
3. \*\*UK Construction Online\*\*: This is another comprehensive resource for the UK construction industry. It includes a directory of construction companies, as well as news, project leads, and market intelligence.  
 - Website: [UK Construction Online](https://www.ukconstructionmedia.co.uk/)  
 - Search Prompt: "Domestic Building Contractors"  
  
Internet Search 1: "List of UK construction companies"  
  
4. \*\*Federation of Master Builders (FMB)\*\*: This is a trade association that represents small and medium-sized construction companies in the UK. You can search their directory to find member companies that specialize in domestic building construction.  
 - Website: [FMB](https://www.fmb.org.uk/)  
 - Search Prompt: "Domestic Building Contractors"  
  
5. \*\*Construction Industry Council (CIC)\*\*: This is a forum for professional bodies, research organizations, and specialist business associations in the UK construction industry. You can search their member directory to find organizations that are involved in domestic building construction.  
 - Website: [CIC](http://cic.org.uk/)  
 - Search Prompt: "Domestic Building Contractors"  
  
Internet Search 2: "UK construction industry associations"  
  
6. \*\*National Federation of Builders (NFB)\*\*: This is another trade association that represents builders and contractors in the UK. You can search their member directory to find companies that specialize in domestic building construction.  
 - Website: [NFB](https://www.builders.org.uk/)  
 - Search Prompt: "Domestic Building Contractors"  
  
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 - Website: [Open Corporates](https://opencorporates.com/)  
 - Search Prompt: "Construction" or "Building Contractors" in the UK  
  
8. \*\*Data.gov.uk\*\*: This is the UK government's open data portal. You can search for datasets related to the construction industry, which may include information about companies that contract for construction of domestic buildings.  
 - Website: [Data.gov.uk](https://data.gov.uk/)  
 - Search Prompt: "Construction" or "Building Contractors"  
  
Internet Search 3: "UK government construction contracts data"  
  
Please note that the information on these websites is subject to change and it's always a good idea to verify the information from the official sources.

chatgpt answer with google search:

Based on my search, here are the public data sources to obtain useful information about the organizations:  
  
1. \*\*Companies House\*\*: The Companies House provides a free monthly snapshot of information for live companies on the public register. This includes information about companies, officers, people of significant control, and more. The data is available through the Companies House API and can be accessed free of charge. You can find more information and access the data [here](https://www.gov.uk/guidance/companies-house-data-products).  
  
2. \*\*The Construction Index\*\*: The Construction Index is the leading online information source for the construction & building industry. It provides a league table of the Top 100 construction companies in the UK, ranked by turnover and profit. The league tables are compiled every month. You can find more information and access the data [here](https://www.theconstructionindex.co.uk/construction-market-data).  
  
3. \*\*UK Construction Online\*\*: Unfortunately, I couldn't find a specific public data source for UK Construction Online. However, there are several other resources that provide construction data in the UK. For example, Constructionline is a register for pre-qualified contractors and consultants used by the construction industry of the UK. The database contains details for over 46,000 suppliers and is accessed by more than 4,000 buyer organisations. You can find more information and access the data [here](https://www.constructionline.co.uk/).  
  
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chatgpt answer with bing search:

Based on my search, here are the public data sources where you can obtain useful information about the organizations:  
  
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 - Data Source: [Companies House Data Products](https://find-and-update.company-information.service.gov.uk/)  
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### 2.1.2. Projects

In this section we are searching for examples of projects that organisations have undertaken, ideally with metadata such as the budget, staffing, resources, management approach and timescale of the projects.

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 - Website: https://www.theconstructionindex.co.uk/  
 - Search Prompt: "Domestic Building Contractors"  
  
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 - Website: https://www.ukconstructionmedia.co.uk/  
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 - Website: http://cic.org.uk/  
 - Search Prompt: "Domestic Building Contractors"  
  
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 - Website: https://www.builders.org.uk/  
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2. [UK – Building Construction Work Contracts - bidstats](https://bidstats.uk/tenders/building-construction-work/): This website provides information about UK government contracts related to building construction work.  
  
3. [UK – Building Construction Contracts - bidstats](http://bidstats.uk/tenders/?q=building+construction): Another page on the same website, this one provides procurement notices containing building construction.  
  
4. [Contracts awarded for £1bn public sector new build housing framework in England](https://www.cpconstruction.org.uk/news/news/contracts-awarded-for-new-build-housing-framework-in-england/): This news article provides information about suppliers who have been awarded a place on a new four-year, £1bn new build framework to deliver public sector construction projects.  
  
5. [Search for Construction Contracts | Tenders Direct](https://www.tendersdirect.co.uk/Construction/Default\_Construction.aspx): This website collates every UK and ROI notice related to construction tenders in one place.  
  
Please note that the information on these websites is subject to change and it's always a good idea to verify the information from the official sources.  
Based on my search, here are some of the top companies that contract for the construction of domestic buildings in the UK:  
  
1. [Balfour Beatty](https://www.balfourbeatty.com/): This is the UK’s biggest contractor. Some of their recent projects include the M60 Palatine Road Bridge project in Manchester, the Swanswell Viaduct project in Coventry, and the Glasgow Queen Street station redevelopment.  
  
2. [Kier](https://www.kier.co.uk/): Kier is another leading construction and infrastructure services company in the UK. They have a wide range of expertise including construction, highways, infrastructure, utilities, housing, maintenance, and property facilities management.  
  
3. [Morgan Sindall](https://construction.morgansindall.com/): Morgan Sindall Construction has a network of offices across the UK and has completed a variety of projects. One of their recent projects is the Britannia Leisure Centre and the City of London Academy Shoreditch Park in the London Borough of Hackney.  
  
Please note that the information is up to date as of the time of the search. For the most recent information, you may want to visit the companies' websites or contact them directly.```  
select three companies form the list.  
you are searching for examples of projects that these selected companies have undertaken, ideally with metadata such as the budget, staffing, resources, management approach and timescale of the projects. Even better if you can obtain more detailed task level data about the project. Provide most up to date information and give usable links to obtain useful data. you can search [3] times maximum. provide a search prompt helps you perform your task.

1. \*\*Balfour Beatty\*\*  
 - Search Prompt: "Balfour Beatty project case studies"  
 - Website: https://www.balfourbeatty.com/our-work/case-studies/  
 - Note: On the Balfour Beatty website, you can find a variety of case studies that detail their projects. Each case study provides information about the project's budget, staffing, resources, management approach, and timescale. However, detailed task level data may not be available.  
  
2. \*\*Kier\*\*  
 - Search Prompt: "Kier project case studies"  
 - Website: https://www.kier.co.uk/what/our-projects/  
 - Note: On the Kier website, you can find a variety of case studies that detail their projects. Each case study provides information about the project's budget, staffing, resources, management approach, and timescale. However, detailed task level data may not be available.  
  
3. \*\*Morgan Sindall\*\*  
 - Search Prompt: "Morgan Sindall project case studies"  
 - Website: https://construction.morgansindall.com/case-studies  
 - Note: On the Morgan Sindall website, you can find a variety of case studies that detail their projects. Each case study provides information about the project's budget, staffing, resources, management approach, and timescale. However, detailed task level data may not be available.  
  
Please note that the information on these websites is subject to change and it's always a good idea to verify the information from the official sources.

chatgpt answer with google search:

Based on my search, here are some recent projects undertaken by the selected companies:  
  
1. \*\*Balfour Beatty\*\*  
 - Manchester Engineering Campus Development (MECD)  
 - Thames Tideway Tunnel  
 - Institute of Regeneration and Repair, BioQuarter Expansion, Edinburgh  
 - A £7 million project delivering a series of major junction, carriageway and roundabout improvement works to reduce traffic.  
 - Balfour Beatty joint venture completed the Southern Gateway project in Dallas, Texas.  
 - Balfour Beatty Communities launched a $7 million Fort Hamilton renovation project.  
 - Balfour Beatty wins £160m Scottish hospital projects.  
   
 More details can be found on their [projects page](https://balfourbeatty.com/projects/).  
  
2. \*\*Kier\*\*  
 - Berkeley Green & UTC South Gloucestershire & Stroud College (SGS)  
 - Luton DART  
 - The Fulmar  
 - Wexham Park Hospital Emergency Department  
 - Kier awarded £20m Altrincham Leisure Centre project.  
 - Hinkley Point C, building the UK's first new nuclear power station in more than 20 years.  
 - Kier and Morgan Sindall among winners on £3bn housing association deal.  
   
 More details can be found on their [projects page](https://www.kier.co.uk/our-projects/).  
  
3. \*\*Morgan Sindall\*\*  
 - A421 improvements  
 - Barking Riverside extension  
 - Dorset Visual Impact Provision  
 - Heathrow Q6 framework  
 - Infrastructure Strategic Alliance  
 - CCOS South  
 - Springwell Gardens  
 - Summerdown SEN School  
 - Victoria Road, Portslade (Residential Project)  
 - Manor Road, Canning Town  
 - Morgan Sindall Construction has been awarded four SCAPE projects worth a combined value of £20m by the National Highways.  
   
 More details can be found on their [projects page](https://www.morgansindallinfrastructure.com/our-work/our-projects/).  
  
Please note that the detailed task level data about the projects, including the budget, staffing, resources, management approach and timescale, might not be publicly available due to the sensitive nature of this information. For the most up-to-date and detailed information, it is recommended to contact the companies directly.

chatgpt answer with bing search:

Based on my search, here are some recent projects undertaken by the selected companies:  
  
1. \*\*Balfour Beatty\*\*  
 - Offshore work at Hinkley Point C in Somerset: This project involves the installation of vital components for the new power station’s cooling water system. [More Info](https://www.balfourbeatty.com/)  
 - £160m Scottish hospital projects: Balfour Beatty has won a contract with NHS Highland for two projects. [More Info](https://www.balfourbeatty.com/)  
 - $650m US airport job: Balfour Beatty JV has landed a significant airport job in the US. [More Info](https://www.balfourbeatty.com/)  
  
2. \*\*Kier\*\*  
 - £400m prison in East Yorkshire: Kier has signed the contract to build a new prison with construction set to start this autumn. [More Info](https://www.kier.co.uk/)  
 - Life sciences laboratory in London’s Hammersmith: Kier has been appointed to deliver this project, which will create 121,000 square feet of laboratory. [More Info](https://www.kier.co.uk/)  
  
3. \*\*Morgan Sindall\*\*  
 - Major new train maintenance depot for the Docklands Light Railway in East London: Morgan Sindall has secured the job with an £88m bid. [More Info](https://construction.morgansindall.com/)  
 - 800-home scheme in Newham, east London: Morgan Sindall has been unveiled as the main contractor on the first phase of this residential-led regeneration project. [More Info](https://construction.morgansindall.com/)  
  
Please note that the detailed task-level data about the projects, such as the budget, staffing, resources, management approach, and timescale, are usually confidential and not publicly available. For the most recent and detailed information, you may want to visit the companies' websites or contact them directly.

You are an expert data analyst who excels at finding public data sources that are helpful for analysis.You are helping a company that provides contract for construction of domestic buildings to the UK government. your task is to find publicly available data sources that can provide information about the projects within the context of Construction of domestic buildings focused on the UK government. you can search [3] times maximum. provide a search prompt that reduces the number of searches you need and helps you perform your task.

1) "UK government domestic building construction contracts data"  
2) "Publicly available data on UK government residential construction projects"  
3) "UK government construction project database for domestic buildings"

chatgpt answer with google search:

Based on the search results, here are some publicly available data sources that can provide information about the projects within the context of Construction of domestic buildings focused on the UK government:  
  
1. [Contracts Finder - GOV.UK](https://www.gov.uk/contracts-finder): This is a UK government website where you can search for information about contracts worth over £12,000 with the government and its agencies.  
  
2. [Government Construction - GOV.UK](https://www.gov.uk/government/collections/government-construction): This page provides information about the Government Construction Strategy, procurement trial case studies, construction costs, construction newsletters, and new models of construction procurement.  
  
3. [Government construction pipeline - Data.gov.uk](https://www.data.gov.uk/dataset/c780702c-971c-4325-95f9-d8bd128902e9/government-construction-pipeline): This dataset includes the Construction Procurement Pipeline for Northern Ireland, Government construction strategy performance data, New Orders in the construction industry, and Construction Statistics.  
  
4. [Contracts awarded by Construction & Procurement Delivery (CPD) - Data.gov.uk](https://www.data.gov.uk/dataset/00ae9bce-37d3-41f2-abfb-ecc8a1ff1fe4/contracts-awarded-by-construction-procurement-delivery-cpd): This dataset lists contracts awarded by CPD from 1 April 2014 to 31 March 2019. Contract information includes the reference number, title, etc.  
  
5. [Construction procurement hub | Local Government Association](https://www.local.gov.uk/construction-procurement-hub): This page provides market intelligence maps that show data captured annually on projects >£1m, including current market trends and other market information.  
  
Please note that the availability and granularity of data may vary across sources.

chatgpt answer with bing search:

Based on the searches, here are some potential data sources that could be useful for your analysis:  
  
1. [Contracts Finder](https://www.gov.uk/contracts-finder): This is a UK government website where you can search for information about contracts worth over £12,000 with the government and its agencies.  
  
2. [Open Contracting Data Standard (OCDS)](https://www.gov.uk/guidance/publishing-to-the-open-contracting-data-standard): This standard is used by the UK government to publish its contracting data.  
  
3. [Major Projects Data](https://www.gov.uk/government/collections/major-projects-data): This collection provides information on the progress of projects in the UK government's Major Projects Portfolio.  
  
4. [Construction Output in Great Britain](https://www.ons.gov.uk/businessindustryandtrade/constructionindustry/bulletins/constructionoutputingreatbritain): This report from the Office for National Statistics provides short-term measures of output by the construction industry and contracts awarded for new construction work in Great Britain.  
  
5. [National Infrastructure and Construction Procurement Pipeline](https://www.gov.uk/government/publications/national-infrastructure-and-construction-procurement-pipeline-2020): This pipeline sets out future planned procurements and levels of investment in the construction sector.  
  
6. [The Construction Playbook](https://www.gov.uk/government/publications/the-construction-playbook): This document sets out key policies and guidance for how public works projects and programmes are assessed, procured, and delivered by the UK government.  
  
Remember to always check the terms and conditions of use for each data source.

### 2.1.3. Tasks

You are an expert data analyst who excels at finding public data sources that are helpful for analysis.You are helping a company that provides contract for construction of domestic buildings  
to the UK government.  
In the context of [Construction of domestic buildings], our focus revolves around analyzing Tasks individual, repeatable actions integral to projects. These tasks embody the foundational units of [industry-specific operations], representing the highest level of detail commonly accessible within this field. task-level data provides an unparalleled glimpse into the inner workings of [industry-specific processes].  
These datasets harbor the potential to yield meticulously calculated aggregate project statistics. Delving into distinct job roles, one can potentially unearth case studies offering generalized frameworks to comprehend the diverse nuances of tasks within [industry-specific scenarios]. Exploring projects executed through open, collaborative approaches may unearth publicly documented task records, shedding light on the process.  
Especially within sectors characterized by digital workflows, such as [software development], meticulous records at the task level are often amassed. A prime illustration lies in the comprehensive task tracking facilitated by systems like source control, given the inherent nature of tasks conducted through digital mediums.  
your task is to identify available and public data sources to obtain data that I described above in the context of Construction of domestic buildings. Try to be up-to-date. you can search multiple times.

1. UK Government's Official Statistics: The UK government publishes a wide range of data related to construction, including data on construction output, new orders, and price indices. This data can be accessed through the Office for National Statistics (ONS) website. (https://www.ons.gov.uk/businessindustryandtrade/constructionindustry)  
  
2. Companies House: This is the UK government's official register of UK companies. It provides data on all registered companies in the UK, including those in the construction industry. This data can be used to analyze the financial health and performance of construction companies. (https://www.gov.uk/government/organisations/companies-house)  
  
3. Data.gov.uk: This is a UK government initiative that provides access to thousands of datasets from all areas of government. It includes data on planning applications, building control, and land use, which could be useful for analyzing construction tasks. (https://data.gov.uk/)  
  
4. Construction Industry Research and Information Association (CIRIA): CIRIA is a research organization that provides a range of data and information on construction industry best practices, including case studies and project reports. (https://www.ciria.org/)  
  
5. British Geological Survey (BGS): BGS provides a range of geospatial data that could be useful for construction tasks, including data on soil conditions, geological hazards, and mineral resources. (https://www.bgs.ac.uk/)  
  
6. UK Data Service: This service provides access to a range of social and economic data, including data on housing and construction. (https://www.ukdataservice.ac.uk/)  
  
7. Construction Skills Certification Scheme (CSCS): CSCS provides data on the skills and qualifications of workers in the UK construction industry. (https://www.cscs.uk.com/)  
  
8. Barbour ABI: This is a leading provider of construction intelligence services. They provide comprehensive data on construction projects, including project details, key participants, and timelines. (https://www.barbour-abi.com/)  
  
9. Glenigan: Glenigan provides comprehensive data on UK construction projects, including project details, key participants, and timelines. (https://www.glenigan.com/)  
  
10. The Construction Index: This is a leading online resource for the UK construction industry. It provides a range of data and information, including construction news, project leads, and market analysis. (https://www.theconstructionindex.co.uk/)

chatgpt answer with google search:

Here are some public data sources that could be useful for your analysis of tasks within the construction of domestic buildings in the UK:  
  
1. [Office for National Statistics (ONS)](https://www.ons.gov.uk/peoplepopulationandcommunity/housing/articles/ukhousebuildingdata/julytoseptember2022): Provides data on house building in the UK, including new supply statistics, local authority new build form returns, National House Building Council (NHBC) data, and approved inspector data returns.  
  
2. [Data.gov.uk](https://www.data.gov.uk/): This site offers a wide range of data published by central government, local authorities, and public bodies. You can find datasets related to the construction industry, including the 'Building' dataset which provides key information about the physical characteristics, energy performance, and occupation costs of each building.  
  
3. [Energy Performance of Buildings Data England and Wales](https://epc.opendatacommunities.org/): This site provides access to Energy Performance Certificates and Display Energy Certificates data for buildings in England and Wales.  
  
4. [Govt construction strategy performance data](https://www.data.gov.uk/dataset/f68d6b85-fdc6-4057-beef-e40b31664a3e/govt-construction-strategy-performance-data): This dataset shows the range of costs currently paid for departmental construction projects and the plans departments are making to reduce these costs.  
  
5. [Major projects data - GOV.UK](https://www.gov.uk/government/collections/major-projects-data): The annual report tracks the progress of projects currently in the Government Major Projects Portfolio (GMPP) and provides analysis of how they're performing.  
  
Please note that while these sources provide valuable data on the construction of domestic buildings, they may not provide task-level data. Task-level data, especially in the construction industry, is often proprietary and not publicly available due to the competitive nature of the industry. However, these sources can still provide a high-level overview of the industry and its operations.

chatgpt answer with bing search:

Here are some public data sources that could be helpful for your analysis:  
  
1. [UK Government's Official Statistics](https://www.gov.uk/government/statistics): This site provides a wide range of data on newly built dwellings in the UK, including data on starts and completions, split by sector (private enterprise, housing associations, or local authorities). The data is updated quarterly and annually.  
  
2. [Office for National Statistics (ONS)](https://www.ons.gov.uk/): ONS provides a variety of datasets related to the construction industry in Great Britain, including value of output, type of work, new orders by sector, number of firms, and total employment. They also provide monthly construction output for Great Britain at current price and chained volume measures, seasonally adjusted by public and private sector.  
  
3. [UK Data Service](https://www.ukdataservice.ac.uk/): This service provides access to a range of different datasets, including those related to construction.   
  
4. [Data.gov.uk](https://data.gov.uk/): This site provides data published by central government, local authorities, and public bodies. It includes data on construction new orders, value of construction new work, and more.  
  
Please note that while these sources provide a wealth of data, they may not provide task-level data as described in your request. Task-level data, especially in the construction industry, is often proprietary and not publicly available due to its sensitive nature. However, these sources can provide a macro-level view of the industry and its operations.

### 2.1.4. Careers

You are an expert data analyst who excels at finding public data sources that are helpful for analysis.You are helping a company that provides contract for construction of domestic buildings  
to the UK government.  
In the context of Construction of domestic buildings, the objective is to gather data on the progression of careers over time. This involves obtaining data with accompanying metadata (could include technical skills, compensation, and other relevant aspects.) related to job roles within the sector.  
for example Access to individuals' resumes, particularly those within the Construction of domestic buildings, can provide invaluable information regarding potential career trajectories.  
Your task is to find available and up to date data resources and knowledge to provide detailed information into the evolution of careers within the Construction of domestic buildings. Pay special attention to the correlation between various factors and career progression, as well as any trends that might be indicative of typical career paths.  
Feel free to explore various angles, gather statistics, and provide qualitative and quantitative sources. Keep in mind that the ultimate goal is to find data and data sources about how individuals in the Construction of domestic buildings navigate their careers over time and what influences their decisions at different stages. Remeber to be up-to-date. you can search [3] times maximum. provide a search prompt that reduces the number of searches you need and helps you perform your task.

Search Prompt 1: "UK construction industry career progression data"  
  
Search Prompt 2: "UK construction industry job roles and salary data"  
  
Search Prompt 3: "UK construction industry skills and career advancement studies"

chatgpt answer with google search:

Based on the searches, here are some potential data sources and insights:  
  
1. \*\*Career and Training Progression Routes in the Construction Industry Report by CITB\*\*: This report could provide valuable insights into the progression of careers in the construction industry, particularly in the UK. It might also shed light on the role of training and qualifications in career advancement. [Link](https://www.citb.co.uk/media/ddkfxsjf/career-and-training-progression-routes-in-the-construction-industry.pdf)  
  
2. \*\*Industry Skills Plan for the UK Construction Sector 2021 – 2025\*\*: This document outlines the breadth of career opportunities in the construction industry, from groundworkers to architects to ground source engineers. It could be a useful resource for understanding the various job roles and skills required in the sector. [Link](https://www.constructionleadershipcouncil.co.uk/wp-content/uploads/2021/03/B06322\_CLC\_SkillsPlan\_v27.pdf)  
  
3. \*\*Construction Careers\*\*: This website provides a comprehensive list of job roles in the construction industry, along with information on salary and job responsibilities. It could be a valuable resource for understanding the different career paths within the sector. [Link](https://www.goconstruct.org/construction-careers/browse-all-job-roles/)  
  
4. \*\*Early Career Women in Construction: Career Choice and Barriers\*\*: This study explores the significant factors affecting career choice decisions in the construction industry, including career opportunities, belief of getting better pay, and self-efficacy and high level of confidence of performing construction tasks. [Link](https://iopscience.iop.org/article/10.1088/1757-899X/601/1/012021)  
  
5. \*\*Factors that Influence Students' Choice of Careers in Construction Management\*\*: This research paper could provide insights into the factors that influence students to enter construction management programs, which could be indicative of broader trends in the industry. [Link](https://www.researchgate.net/publication/284015537\_Factors\_that\_Influence\_Students'\_Choice\_of\_Careers\_in\_Construction\_Management)  
  
Remember, while these sources provide a wealth of information, they may not cover all aspects of career progression in the construction industry. Additional research may be necessary to fully understand the nuances of this topic.

chatgpt answer with bing search:

Based on the searches, here are some potential data sources and insights:  
  
1. \*\*Career and Training Progression Routes in the Construction Industry\*\*: This report by BMG Research commissioned by CITB provides insights into career progression opportunities and entry requirements in the construction industry. It also discusses the factors that might influence individuals to consider changing their industry or career.  
  
2. \*\*Construction Statistics Annual Tables\*\*: This dataset provides a comprehensive overview of the construction industry in Great Britain, including the value of output and type of work, new orders by sector, and more. This data can be used to understand the overall trends in the industry and how they might impact career progression.  
  
3. \*\*Building Skills for Net Zero\*\*: This research identifies the roles and skills needed in the construction industry to meet the UK's net-zero emissions target by 2050. It suggests that the industry will require the equivalent of 350,000 new roles to be created by 2028, indicating potential career opportunities in the sector.  
  
4. \*\*Factors Influencing Career Decisions in the Construction Industry\*\*: This research examines the factors that influence the career dynamics of construction professionals in the UK. It includes insights from interviews with construction operatives and discusses the activities that give those in construction the most job satisfaction.  
  
5. \*\*A Grounded Theory of Women's Career Under-achievement in Large UK Construction Companies\*\*: This study discusses the efforts made by the UK construction industry to attract more women to its professions and the challenges faced in this regard. It could provide valuable insights into the career progression of women in the industry.  
  
6. \*\*Salary Data\*\*: The construction industry is highly competitive, and salaries can vary significantly based on experience and skill level. This data can be used to understand the correlation between compensation and career progression.  
  
These sources can provide both qualitative and quantitative data on career progression in the construction industry, the skills required for various roles, the factors influencing career decisions, and the trends shaping the industry.

### 2.1.5. Jobs

You are an expert data analyst who excels at finding public data sources that are helpful for analysis.You are helping a company that provides contract for construction of domestic buildings  
to the UK government.  
In the context of [INDUSRTY], your task is to find data and data sources about the daily activities associated with a Project Manager within the industry. Through this exploration, the aim is to find data sources that uncover the diverse approaches to performing the role. we also want to find data sources that help us in identifying requisite tasks, essential skills, time allocation, responsibilities, and compensation related to the role. The ultimate goal is to establish connections between these job roles, the organizations that host them, and the trajectories of individuals' careers within the industry. By doing so, we can better comprehend the factors contributing to role variations and the influence these roles exert on individuals' career paths.  
Articles detailing a day in the life of professionals are also valuable sources. These articles furnish additional insights into the activities encompassed by various roles and may even offer timing information, shedding light on the distribution of time across different tasks.  
Remember to be up-to-date. you can search [3] times maximum. provide a search prompt that reduces the number of searches you need and helps you perform your task.

1) "Project Manager daily activities in UK construction industry"  
2) "Skills and responsibilities of a Project Manager in UK construction industry"  
3) "Salary and career path of a Project Manager in UK construction industry"  
4) "Day in the life of a Project Manager in UK construction industry"  
5) "Role variations of Project Managers in UK construction industry"

chatgpt answer with google search:

Based on the searches, here are the findings:  
  
\*\*Daily Activities of a Project Manager in the UK Construction Industry:\*\*  
- Planning and scheduling: Creating project schedules, determining project timelines, and ensuring that the project is completed on time and within budget.  
- Budget management: Developing and managing project budgets, tracking expenses, and ensuring that the project is delivered within the client's budget.  
- Communication with stakeholders: This includes regular updates and discussions about the project's progress.  
- Reviewing the previous day's work and scheduling the day's tasks.  
- Analyzing departments and their performance.  
- Leading a team towards completing the goals of company projects.  
  
\*\*Essential Skills and Responsibilities of a Project Manager in the UK Construction Industry:\*\*  
- Understanding what the client or company wants to achieve.  
- Agreeing timescales, costs, and resources needed to deliver a project.  
- Drawing up a detailed plan for how to achieve each stage of a project.  
- Selecting and leading a project team.  
- Key competencies include planning, financial management, time management, communication, and being detail-oriented.  
- The project manager is also responsible for managing relationships with key stakeholders, creating benchmarks for success, and delivering on these benchmarks.  
  
\*\*Compensation and Career Path of a Project Manager in the UK Construction Industry:\*\*  
- When newly trained with minimal experience, the salary is between £25,000 and £30,000 annually.  
- With a few years of experience and additional training, the compensation package starts from £30,000 to £50,000.  
- The average salary for a construction project manager is £46,452 per year, but this can vary by location or company.  
- The career path for a project manager often involves gaining experience in an industry before stepping into the role, then progressing to become a senior project manager, director, or even vice president or other executive.

chatgpt answer with bing search:

Based on the search results, here are the data sources and insights related to the role of a Project Manager in the UK construction industry:  
  
1. \*\*Job Roles and Responsibilities\*\*: A Project Manager in the construction industry is responsible for liaising with clients and construction professionals to arrange schedules and direct activities. They are responsible for ensuring the timely and costly completion of construction projects by overseeing all phases of the project. This entails working with a variety of stakeholders to schedule and plan work, coordinate equipment and materials, operate within budget, and monitor overall progress. They also manage the construction site on a day-to-day basis, including supervising the staff and ensuring adherence to safety standards ([source](https://www.goconstruct.org/learn-about-construction/find-the-role-for-you/career-explorer/project-manager/)).  
  
2. \*\*Essential Skills\*\*: Construction project managers must be familiar with the construction industry. They benefit from leadership and communication skills to better manage their crews but also interact with financial and business administration aspects of the job. Financial management is also essential to keep costs within limits and ensure the project does not go over budget ([source](https://www.goconstruct.org/learn-about-construction/find-the-role-for-you/career-explorer/project-manager/)).  
  
3. \*\*Time Allocation\*\*: Project managers work on specific projects that have definite outcomes, have time limits, and have to stay within a budget. They are responsible for the day-to-day management of the project, including managing the scope, schedule, finance, risk, quality, and resources ([source](https://www.goconstruct.org/learn-about-construction/find-the-role-for-you/career-explorer/project-manager/)).  
  
4. \*\*Compensation\*\*: According to ONS, the average salary of a construction project manager is between £25,000 and £60,000 a year. When you are newly trained with minimal experience, your salary is between £25,000 and £30,000 annually. With a few years of experience and additional training, your compensation package starts from £30,000 to £50,000 ([source](https://www.goconstruct.org/learn-about-construction/find-the-role-for-you/career-explorer/project-manager/)).  
  
5. \*\*Career Paths and Role Variations\*\*: The role of a project manager is critical for delivering a successful project. They work for individual clients or within businesses where they focus on project-based tasks rather than the day-to-day work of the organisation. There are several routes to becoming a project manager, and the career path can vary based on the individual's skills, experience, and the specific needs of the projects they manage ([source](https://www.indeed.com/career-advice/career-development/project-manager-career-path)).  
  
6. \*\*Day in the Life Articles\*\*: Articles detailing a day in the life of a Project Manager in the construction industry can provide additional insights into the activities encompassed by the role and the distribution of time across different tasks. For example, [this article](https://www.laytonconstruction.com/the-real-life-of-a-construction-project-manager-kris-jenson-on-communicating-for-success/) provides insights into the life of a construction project manager and guiding building projects from preconstruction to completion.  
  
These data sources and insights can help in understanding the diverse approaches to performing the role of a Project Manager in the UK construction industry, identifying requisite tasks and essential skills, understanding time allocation and responsibilities, and analyzing compensation related to the role. They can also help in establishing connections between these job roles, the organizations that host them, and the trajectories of individuals' careers within the industry.

## 2.2. Lenses

### 2.2.1. Financial

### 2.2.2. Government Statistics

### 2.2.3. Career

### 2.2.4. Research

### 2.2.5. Professional Associations, Market Analysis

## 2.3. Values

### 2.3.1. Value

### 2.3.2. Issue

## 2.4. Conclusion and Further Work

### 2.5.1. Conclusion

*The conclusion drawn from the automated generation of this chapter is deemed satisfactory, given the complex nature of the problem.*

*We've enhanced the ChatGPT API by adding search capabilities using tools like Langchian utilities, Serper API (*[Serper API](https://serper.dev/))*, and Bing search API. This enables us to respond to prompts both with and without using internet searches.*

*We've established a system of predefined and general prompts, where we fill in the necessary details before giving them to the AI. However, it's important to note that the prompts we've used might not be optimally structured due to our focus on finding a solution. A crucial aspect to consider is that the formulation of prompts significantly impacts the generated outcomes. As ChatGPT generates search prompts based on the initial instructions, refining prompt construction to guide the model in formulating pertinent search queries can substantially elevate the quality of the resultant responses.*

*It's worth mentioning that existing models are constrained by token limitations, leading to a restricted number of feasible searches due to token overage. Given that the gpt-4 model performs significantly better than gpt-3.5 models, best model to use at this point would be gpt-4-32k, which has a higher token limit. Still, we will have limitations in the number of searches but, taking measures to direct searches in desired directions with more sophisticated prompts, we will get very satisfactory results. Especially, considering that the whole process is done automatically and utilizing this, we will be able to generate very useful information in a short time.*

*Considering that APIs operate without memory of previous interactions and there's a possibility of needing responses from earlier prompts for later ones, a solution was required to facilitate this process. The structure of the prompts, especially in the recent arrangement of the report, isn't linear. Consequently, it's not feasible to present all prompts and responses in a conversational style to ChatGPT. Furthermore, adopting such an approach would substantially increase token usage, particularly when internet searches are integrated, introducing additional length and data to the conversation.*

*To address these challenges, a mechanism was devised to access prompt responses as necessary. This was achieved by implementing a system that captures and retains the answers to each prompt within the program. Subsequently, these answers are incorporated into new prompts before being submitted to ChatGPT. To illustrate, if we require responses from prompt 1 to enrich prompt 4, we amalgamate those responses into prompt 4. It's important to note that this process is distinct from the initial formatting of generic prompts at the outset. It exclusively affects the prompts where such integration is required. An instance of this approach is exemplified in the "organisations2.txt" file within the "prompts2\_ready" folder located in chapter 2 source Folder and the resulted prompt is in page 5 of this report.*

*Due to the costs involved in making repetitive API calls to ChatGPT we just ran the program for section 2.1.*

*It's crucial to highlight that the solution outlined in this chapter serves as an illustrative example of the potential for automating such processes in data analysis. Yet, it's important to acknowledge that devising a more intricate and comprehensive solution would necessitate a greater investment of time and potentially involve collaborative teamwork.*

### 2.5.2. Further Work

*There are several potential improvements to the system that could be implemented at this point. Other than what is mentioned in further work and conclusion section in chapter 1, Trying to add scarping functionality would be very valuable to work on. It can be integrated as another function that ChatGPT can call, and the function scrapes the requested URL and gives a summary or formatted representation of the scraping results.*

*Improvements in the readability of the project report can be achieved by adding more guidelines and separation between different sections and responses. As mentioned in chapter 1, ChatGPT responds in Markdown format. So, finding a solution for this will enhance the look and feel of the document. One possible and easy solution is to save the reports in Markdown and then convert it to pdf or docx using another software or service.*

*Download functionality can be added to the system to download the sources provided. This can be achieved by either parsing the document for links or asking ChatGPT to create a python list from the links inside a certain section.*