

Quality is associated
with various
meanings
construction essay



**ASSIGN
BUSTER**

Introduction

The definition of quality is associated with various meanings due to its abstract concept. Quality is predominantly about individual perception that is either objective or subjective but does not have physical attributes. (Watson et al, 2011) The merits of quality are associated with the value or worth solely dependent on judgement and level of satisfaction. Quality within organisations such as house builders adheres to the framework of Quality Management Systems adopted and National Housing Building Corporations (NHBC) Standards. Quality Management determines objectives and processes to achieve systematic ways and methods of guaranteeing that all activities are planned and prescribed. For it to be efficient and effective; assessment, accreditation, intent and application require components, which serve as the model for the Quality Management System and comprised as illustrated. Dia 1: The diagram illustrates the Quality Management System

The purpose and scope of this report seeks to analyse and evaluate Quality Management within Taylor Wimpey East Midlands (TWEM) based on records and documentation used by the organisation. Emphasis of this report focuses on the operational aspect of management (construction process) with an overview of the strategic management and takes into account Quality in Materials and Quality in Workmanship. In developing the argument seeks to refer to the following; Inspections and Verifications (Control and Monitoring) Audits and Documentation Evaluation of the quality of materials and workmanship Compliance to set standards and regulations as well as Approved Codes of Practice and Best Practices Applicable data and

information will assist the process by providing subjective and objective overviews, thus informing good practice or identify potential deficiencies.

Organisational Structure

The objectives of quality seek to underscore the importance of the parties involved; the organisation and importantly the customer or end user. Simply defined, quality is reliant on reputation, feedback and satisfaction. The Quality Management System aims to organize and implement conformance on a continuous basis towards achieving quality; provide confidence to the customer or end user on the product quality and covers all aspects contained in the organisation with the extent and detail determined in the documentation. (McCabe, 2001)The management concepts and principles embedded in construction have served the organisation through systematic and strategic structures. These have been coherent and addressed their effectiveness, efficiency and directive management from corporate level through to operational management. This is by far has resulted in fluid and innovation structures; a departure from the rigid regime previously synonymous with archaic forms of management and fallacious principles such as the Hawthorne Experiment. (Griffith et al, 2000)

Sub-Contractors

Taylor Wimpey East Midlands is the regional division of Taylor Wimpey. The organisation operates as the Main Contractor and Client on their developments and in the instances of Housing Associations assume the role of Clerk of Works. Trade Conditions drafted at a national level contain the minimum requirements that potential Sub-Contractors are required to satisfy. These conditions cover Limited Liability Insurance; Warranties, <https://assignbuster.com/quality-is-associated-with-various-meanings-construction-essay/>

Trades Certification and References. These allow process to pre-qualify Sub-Contractors before for appointment. The Production Department; the business unit working closely with the sub-contractor carries out a review and visual inspection of previous works, which are used to assess the quality of workmanship and confirm whether the expertise and competence will satisfy the organisations expectations and standards. Contained within the Trade Conditions are the Terms of Contract, Design and Build Packs, which will detail the organisations Construction Robust Details and the methods of construction accepted or proposed. Taylor Wimpey employs the National Housing Building Council (NHBC) Building Standards as the Building Inspector; NHBC are an insurance and warranty provider. All Sub-Contractors are required to ensure that all their employees are competent and registered in the relevant trades. Sub-Contractor Site Safety Meeting (Appendix 1) Method Statements and Risk Assessments (Appendix 2) Induction and Tool-Box Talks (Appendix 3) Programme of Works (Appendix 4) Contractors Check List (Appendix 5) form the documents used in the Quality Control which is stored on site and at Head Office.

Operational Management

The Operational Management is the heart of Quality Control in construction. Mechanisms employed are subjected to constant challenges in the complex process which not only requires improvement in internal quality, strength in management, paying attention to Quality Control but as well as the increasing requirements of customer Quality Assurance. (Cooke et al, 2009)The process, which deal with a wide range of factors that influences the quality seeks to identify and discuss the principles and measures

implemented for quality in the workmanship. Methods and processes applied are at the root of the organisational structure with the discussion focusing on a systematic analysis of the quality management. From a qualitative and quantitative perspective, the structure demonstrates vertical and horizontal co-ordination with a defined chain of command established regarding roles and responsibilities. Challenges do occur, with resolutions addressed at various levels depending on their effect on the Quality Management. Resolution does however appear reactive to a prevailing condition, with educating and working from the same platform encouraged through constructive dialogue.

Site Management

The tools adopted and used throughout all the sites whether regional or at national level are standard throughout the business to demonstrate the consistency sought. Health and Safety is paramount on site. Reviews of Method Statements and Risk Assessments are critical for ensuring the tradesmen are free to carry out their objectives unhindered.

Site Managers

The general perception of the role of the Site Manager is that of a fire-fighting mission due to the wide range of challenges encountered on site. Site Managers are generally required and encouraged to carry out as many visual inspections as possible to ensure active control and monitoring. In this regard, the role attempts to diffuse the negative attitude previously synonymous with Inspection, which focused on fault-finding and blame shifting. (Appendix 6) All sites are equipped with resources essential for

adapted to suit the human resource compliment. Where Taylor Wimpey is the Clerk of Works, a representative of the Housing Association (Appendix 7) conducts their own Quality Inspection in tandem with the Site Management. This affords them an opportunity to be involved from the onset giving them a greater degree of control and ensure their quality and assurance. (Atkinson, 1995) These resources include; Site Action and Monitoring Manual (Appendix 8) Programme of Works (Appendix 9) Build Pack and Design Specification (Appendix 10) Progress Tick Sheet (Appendix 11) Plot Inspection Check List (Appendix 12) As alternative principles have all heralded innovation and considered key after mastering the basics of Site Management, (Nokes et al, 2000) these resources include proven traditional practices widely applied with widespread consensus about their value and usefulness resulting. Emerging innovative practices within the business have included techniques, which enhance the chances of success determined appropriately to suit the organisation.

Monitoring and Control

The implementation of Quality Control and Monitoring mechanisms as highlighted in the previous table focuses on Workmanship and Human Resource Management as critical factors in achieving the expectations. Leadership and Management techniques and skills are critical as they can have adverse results on the quality. An adopted philosophy in the business is 'to educate and take forward' through toolbox training and updates for Best Practice and Approved Codes of Practice. An analysis of the roles and responsibility have identified that during site walks, the Site Manager carries out Health and Safety inspections on live plots to check that the human

resources assigned are where they are required and carrying out the required works in a safe manner. (Appendix 13) As part of the duties, daily checklists and permits to carry out work, form the mandated paper trail in addition to Progress Tick Sheets and Plot Inspection documents. An example of how effective active control and monitoring can result in a document called a Progress of Works Not Maintained or Incomplete Works (Appendix 14) (short-term programme) being issued for defective workmanship. The Quality Control and Monitoring though an on-going process throughout the development; does have stages within it that require logging and documenting. These stages are (Appendix 15); Foundation Drainage Super-structure Pre-plaster Certificate for Mortgage Lenders The stages have sub-categories that a Site Manager will monitor as part of the short-term programme. This tool is effective in the sense that a Site Manager ensures that " they get the desired quality from what they inspect!" A requirement that is essential within the business is communication both as an operational management tool and for leadership. Informal instructions are prevalent within Monitoring and Quality Control where focus is on actively listening to varying views when challenges arise; such as difference in opinion over specification with the need for leadership to display knowledge when reaching a resolution. A successful Site Manager in regards to roles and competence should display effectiveness and efficiency as part of qualities and traits of Leadership as described below (Appendix 16) The consistency within the business is evident through the provision of business standard documents, which are critical aspects for Quality Control and Monitoring and are stored or shared as part of the on-going Quality Management by all Site Managers. (Appendix 17) These collections of documents are live and <https://assignbuster.com/quality-is-associated-with-various-meanings-construction-essay/>

considered as active reference for ensuring Quality Control and Monitoring. As a rule, all documents critical to the development such as Update Training, Project Tick Sheets and NHBC reports are relayed to the head office for any action or filing. At the completion of a project, all documents are archived for future reference. As Quality Monitoring and Control is an on-going process; at the completion of the build stage, a Building Complete Record BCR is signed off which subsequently triggers an NHBC inspection to certify that the NHBC standards have been met before issuing the insurance and warranty a Certificate for Mortgage Lenders (CML) (Appendix 18).

NHBC – Building Inspectors

The attitude towards inspection has previously been viewed as a reactive method of quality control. (Griffith et al, 2000) NHBC by virtue of being the approved Building Inspector has stake in ensuring that the minimum quality standards are met. An observation has identified that the NHBC ensures an impartial inspection is carried out. As a result, they provide Taylor Wimpey with a report of their visit where they detail their inspection and comments regarding deficiencies in workmanship. Another form of Quality Control are NHBC Red Letters sent directly to the Production Head Office detailing outstanding works on previous inspections.

Strategic Management

Strategic Management forms the backbone of the organisation and is responsible for preparing and implementing mechanisms that will be used in the Operational Management. As a sub-business unit of Production Management, the department provides direction, expectation and is critical in its support role as the driving force in the Quality Management and Quality

<https://assignbuster.com/quality-is-associated-with-various-meanings-construction-essay/>

Assurance. (Nokes et al, 2000)The processes used are predominantly audit based to ensure that there is consistent development in Best Practices and exploring the Quality Management System for qualitative and quantitative attributes in both Operational and Quality Management. As a process that operates along an Operational and a Quality Management perspective, Strategic Management tries to ensure that the relevant support and standards are consistently applied; supervision, co-ordination and implementation.

Production Department

As the business units' Strategic Management arm, the Production Department through the Production Director and Production Managers oversee and steer the Site Management by supporting operational efficiency, consistency and control. An observation has identified various Quality Management proxy's that assist in propelling the business reputation and Quality Assurance. The business unit is proactively engaged and is integral in the following; Programming(Appendix 23)Progress Tick Sheets (Weekly) (Appendix 24)Production MeetingsAppraisals (Appendix 25)NHBC Awards (Appendix 21)Training and DevelopmentThe department will ensure that mechanisms put in place are consistently reviewed and implemented. In their capacity, they ensure that the level supervision on a site is assessed on an individual development and agree to the appropriate level of site supervision required. As the business refers to a national guideline, the department makes discretionary and informed decisions. The principle of Quality Monitoring and Control within Taylor Wimpey has robustly established essential elements that when combined provide a wider

perspective in its definition of quality and its impact. An analysis has established that it has successfully bench marked its expectations as evidenced in the structures that have been implemented. Human Resources and the Quality Control and Monitoring in workmanship have thus identified the extents that the organisation will strive for in its Quality Management System. Further measurable aspects implemented and analysed focus on the benefits which are divided into two categories as described below. To achieve continuous improvement and performance the organisation has placed emphasis on the structures required and understanding their need and how they may impact quality. Quality Management principles that focus on the achievement of project and corporate quality objectives have been identified and discussed. The adoption of these standards has resulted in improvement becoming a fundamental aspect that assists the management of workmanship. (Cooke et al, 2009) In the determination of quality, references are made to documents that provide details about the specific requirements and thus become influential in the evolution of Quality Assurance.

Material Procurement

The Commercial and Technical Department, business units within the regional division of Taylor Wimpey are solely responsible for specifying and approving materials used in the construction processes. Operating within a national frame work with regional context and location to consider, the importance of specification guides the anticipated quality governed by variables such as cost, availability, transportation and geographic location. As an organisation that operates as the Client and Main Contractor on its

developments, a supply chain is established that adheres to the organisations national framework. In addressing quality, model frameworks like the International Standards Association, are set standards or specifications incorporated within the ISO 9000 suite. All procurement Taylor Wimpey is done nationally with materials required to meet as a minimum the ISO 9000 and British Standards European Norm (BSEN). (Tang et al. 2005)

The home-grown standard, British Standards (BS) is used in conjunction where materials may exceed or are not harmonised with the European Norm. These standards are adopted for implementation as Quality Management Systems. Buyers within the organisations convene for national selection of suppliers and manufacturers, which are then placed into national and regional for tendering and bidding. As part of its management strategy, all suppliers are required to sign up to national Taylor Wimpey Framework Agreements, which set out trade and terms and conditions. A copy of Taylor Wimpey specifications are sent out which contain site specific details/ design packages for pricing and costing. Where Taylor Wimpey will not be involved with the purchase of materials, sub-contractors appointed for supply and fix are furnished with a pre-negotiated preferred supplier. This mechanism is implemented to ensure that their desired specification is not substituted for another unauthorised product.

Supply Chain

The issue of Quality Management has long begun in the process by the time we start considering Supply Chain Management. At every stage in the business, quality has been scrutinized and evaluated with every process thereafter subject to review. Determining the Supply Chain requires that the

following factors are continually addressed and analysed in ensuring Best Practice and Approved Code of Practice. These primary factors primarily are; Forecasting DemandSuppliers and ManufacturersDistribution and DeliveryStorageThese factors loosely define Supply Chain Management in principle as implemented by the organisation without going into much detail of its overall definition. Variables identified are the efficiency of the prescribed system in relation to the network of business involved; the cost to the business in maintaining its supply chain; improvement of the supply chain for a competitive advantage and critically ensuring that the materials are requested on time; reputation of the suppliers and manufacturers and their satisfaction of desired material pre-conditions; effectiveness, efficiency and reliability in the distribution and delivery networks; adequate resources for storage, availability of equipment and access of the materials:

Quality Management - Materials

The Quality Management seeks to comply with industry standards, manufacturers' recommendation, specification and procedures. Taylor Wimpey has established appropriate measures for Monitoring and Controlling materials and focus in ensuring challenges are overcome according to the measures put in place as illustrated below.

Materials Schedule

Tied in with the Programme of Works (Appendix 26) is the Materials Schedule. (Appendix 27) This document in the form of a chart is used to monitor, forecast and track progress on site, material requirements and delivery dates. The Materials Schedule ensures that as a visual aid, it is an efficient and consistent method used in identifying and assessing lead times.

<https://assignbuster.com/quality-is-associated-with-various-meanings-construction-essay/>

Its major benefit is that it is modelled to enable real time activities of material orders and human resource management. Active monitoring allows for sufficient quantities to be requisitioned ahead of time, with forward orders capable of being deferred if delays occur on site. As a Quality Control measure on material requirements, it ensures that delivery can be pre-arranged with adequate equipment made available. Elements incorporated in the Materials Schedule incur a lead time and include those items that require pre-ordering and specialist installation. In the instance of roof trusses, a crane can be procured to ensure lifting and placing on the roof's during the delivery process. (Appendix 28) Essentially, storage can be pre-arranged on site for materials being delivered.

Call-off and Requisition

A typical requisition is sent to the buying department at Head Office for particular products who place orders on behalf of the site. Another process allows for sites to place Call-off Orders or Requisitions directly with the supplier or manufacturer and make appropriate arrangements without directly involving the Buying Department. The relevant detail is applied to the Materials Schedule identifying date of order, estimated or expected delivery dates and date of actual delivery. This information tracks what has been done and is now expected.

Delivery

Implementation of Quality Management of materials on site is dependent on processes and procedures incorporated and harmonised with the programme. (Appendix 29) Ad-hoc deliveries and Just in Time deliveries have an impact on site with major factors up for consideration being access, site <https://assignbuster.com/quality-is-associated-with-various-meanings-construction-essay/>

rules and restrictions. An industry wide process, adopted from the Toyota Production System (Shingo, 1988), JIT (Just in Time) delivery system influences the Quality Management with principles that rely on effectiveness and efficiency prescribed and incorporated in the Materials Schedule. Delivery tickets or receipts form a measure of Quality Assurance integral in Quality Management of materials. Consistency in delivery documents assist in completing the delivery process successfully, as it aids in ensuring materials are traceable. Received materials should be handled and stored in accordance with manufacturers' specification. (Appendix 28) Before unloading, it is important that a call has been made in advance to confirm delivery; there is adequate storage and access; what the contract says.

Quality Control and Monitoring

A visual inspection forms the most consistent method of Quality Control and Monitoring. The Fork Lift Driver, usually a direct employee of Taylor Wimpey and undergone training is responsible for all bulk materials such as bricks, blocks, Medium Density Fibreboard products, plasterboard and timber as well as maintaining and controlling the materials compound. In addition, the duties undertaken include informing the Site Manager of any damaged products or quantities that are running low in the materials compound. Other trades are responsible for advising the Site Manager of any requirements. This may include cavity socks, fire stops and window interceptors as an example. Other than deliver receipts, Best Practice of Quality Control and Monitoring seek to confirm that the materials comply with the adopted Quality Control Standards (ISO and BSEN) with manufacturers' technical specifications attached or provided for installation. It is important to ensure

that Trade Conditions are followed with the strict adherence to avoid challenges. Key elements that are considered are; Identification and Markings – BSEN or BSI with respect to material and in accordance with design specification. Manufacturers Documentation – Assurance that materials meet or exceed requirements and methods of assembly. Protection Covers and Seals Coatings and Preservatives Physical Damage Cleanliness

Storage

To prevent deterioration, contamination and physical damage, a Materials Compound or Storage Containers are provided by Taylor Wimpey. The materials storage container is overseen by the Site Manager and his Assistant, which are kept locked at all times. The Site Manager assigns and reserves containers for each particular trade or subcontractor to ensure that materials are of the accepted quality, standard and quantity. A standard requirement is that the materials should be labelled with adequate access for ease of inspection.

Document Control

On site, a delivery log is maintained with all documents received collected and forwarded to head office. All documents are filed and maintained throughout the entire construction phase.

Waste Management

A significant factor considered by Taylor Wimpey is Waste Management and features in ensuring Quality Management of quantities. There is now a holistic approach to choosing materials that have the least impact on the environment and take into account re-use and recycle. An evaluation and

analysis of three materials is carried out and assesses the process of quality control and monitoring mechanisms implemented throughout the business from procurement to construction stage. The different supply chains and material will be identified and commented on.

Direct

Bricks are supplied directly by Ibstock who are Taylor Wimpey's preferred manufacturer and supplier. The desired product is BSEN approved to meet minimum design and quality standards.

Call-offs and Requisition

The process involves a bulk order placed with call-off orders placed directly with Ibstock for specific brick type variant and quantity requirement due to a lack of storage on site. Call-offs and Requisitions are done according to the specified terms of the agreement; take into account specified lead times; done directly by Site Management:

Delivery and Storage

Delivery is done as per requirement of Site Management with access being of major concern. The bricks arrive on a rigid and normally off-loaded by the driver under the supervision of the forklift driver. Prior to accepting delivery, the paperwork is checked to confirm the product; A visual inspection to confirm the quality, packaging and product appearance: Materials are stored in the materials compound overseen by the Fork Lift Driver. On completion of delivery, Delivery Tickets are signed and handed over as part of the quality procedures.

Product Quality

Testing is carried out at factory and pre-approved. Taylor Wimpey representatives would have visited the manufacturing plant to physically view and decide on the product. Technical specifications are also available to view on the company's website and would have been furnished prior. On site, inspection and further material Quality Control is undertaken by the Bricklayer and Site Manager to ensure that expected standard will produce the desired results.

Taylor Wimpey Logistics

Taylor Wimpey Logistics is an integral business unit whose main purpose is found in the supply chain of Taylor Wimpey. This business unit is responsible for purchasing and distributing build packs (Medium Density Fibre-boards products) to various sites throughout the country. All meet BSEN requirements. As part of the supply chain, it has direct communication with all business units, Commercial, Technical and Production. TWL purchases products from preferred suppliers and manufacturers; warehouse and distribute as required at a premium charged to the Commercial Department.

Call-offs and Requisition

Site Management places an order through the Commercial Department who through the Progress Reports are aware of house types under build and material requirement for the build packs. (Appendix 30) Additional materials not included in the build packs and required due to damage or shortage are ordered directly by the Site Manager. A materials schedule is sent to the Site

to confirm the quantities and products for delivery as well as the house type and plot number. (Appendix 31)

Delivery and Storage

Delivery is done on Taylor Wimpey vehicles (vans). Usual visual inspections are carried with the relevant trades informed of the material availability. The materials received are checked by the Site Manager or his Assistant and stored in the containers under lock and key.

Product Quality

The product quality expectations are pre-approved by the TWL with specifications on assembly issued to site. Sites responsibility is to ensure that product is handled and used as instructed and only in rare instances in quality will a product assessment be carried out with workmanship called into question as part of the investigation.

Indirect – Supply and Fit

The Supply and Fit route is reserved for products procured through a sub-contractor from a pre-specified supplier and in this case Roman Showers and Mitie. This supply chain process is used for plumbing where the sub-contractor will provide a price for labour and their agreed marked-up cost on materials.

Call-offs and Requisition

Taylor Wimpey is not responsible for call-offs and requisitions as this is done by the sub-contractor themselves. They however ensure that the works usually first Fix Plumbing and Second Fix Plumbing are included in the

programming with adequate time for ensuring the ordering of required materials and work is done in the required time.

Delivery and Storage

Delivery of products is received by the plumbing sub-contractor checks and carries out verification and inspection. Usually products delivered on site are stored in the storage containers supervised by the Site Management.

However, as most products delivered adopt the Just-In-Time process, products are taken to where they are required and installed.

Product Quality

The product quality expectations are pre-approved by the Taylor Wimpey with the sub-contractor responsible for ensuring quality and assembly specifications. Site Management's responsibility is to ensure that product is handled and fitted as instructed with visual inspection being the only element that they can focus on.

Analysis

The Quality Management Philosophy aims to ensure there is active involvement and participation of all stake holders to ensure the goals and objectives meet or exceed the predetermined expectations. A valid argument by quality gurus is that quality is free; therefore, it costs less to get the job right first time.

Quality

Taylor Wimpey has demonstrated that Quality in workmanship and materials should aim to meet or exceed the expectations as a representation of

outstanding value. This has been achieved by distinctly outlining the organisations expectations and measures in place so as to avoid misconceptions associated with comparing products at opposite ends of the quality scale.

Quality Control

Characteristics of the methods employed for Control and Monitoring; the actions taken by Operational and Strategic Management; availability of the necessary resources; provision of the documentation defines the methodology and in-process procedures to meet the required expectation. Control Measures have been identified in the human resources and materials with design, manufacture, assembly and programming as critical processes in the monitoring and control.

Quality Assurance

Their systematic process of defining, planning, implementing and reviewing the Quality Management has defined their Quality Assurance and widely achieved through their adequate quality systems, processes and procedures implemented. Through constant review, qualifying proof of the Quality Management Systems has ensured compliance as evidenced by the documentation, processes, guidance and when the different quality procedures and systems have been implemented.

Total Quality Management

The Total Quality Management has considered all elements of the Quality Management System. Taylor Wimpey has demonstrated its efforts in its people and quality. It has identified client needs and expectations with

emphasis on continuous improvements. The attitude towards Total Quality Management and its efficiency and effectiveness has concentrated on introducing all members to its corporate culture and aspects of the company's operations. Its documentation assists during audits and identifying shortcomings or deficiencies.

Conclusion

The report has made a comprehensive attempt in addressing the Strategic and Operational Management at Taylor Wimpey by identifying, defining and exploring the processes and procedures of Quality Control in Workmanship and Materials.