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CUSTOMER SATISFACTION AND SNAGGING IN THE UK PRIVATE HOUSE BUILDING SECTOR

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The idea of assessing new home customer satisfaction, under a systematic approach, began in 2000 and the performance of the private house building sector of the UK construction industry has been measured in recent years using seven national customer satisfaction surveys. Recently, the house building sector has begun to emerge from its lowest levels of activity for many years. During this period of low output, the levels of customer satisfaction reported in surveys conducted by the Housing Forum and the House Builders Federation have improved only slightly to 77% (2009) compared to 76% in the previous two years when activity was much higher. During the same period snags reported by customer increased from 94% in 2007 to 95% in 2009 on a 20% smaller sample. Data collected in these surveys demonstrates that only three quarters of customer are happy with their new home and the trend regarding defects being reported by customers appears to be increasing. The authors have also analysed a dataset of 199,000 snagging items the results of which demonstrate the problem of snagging within private house building not only in relation to the Paretto 80/20 concept but also the relationship that snagging plays in terms of technical and functional quality.

Keywords: customer satisfaction, defects, housing, quality.

INTRODUCTION

The process of buying a new home is fraught with pitfalls which invariably end in tears for the buyer (Sommerville and McCosh, 2006) with the buyer suffering stress as a result of the number of snags (defects) encountered in what should have been their pride and joy. The matter is exacerbated by builders who often take a recalcitrant view on how to alleviate the situation and is further compounded by the lack of consumer legislation which affords the buyer any comfort when seeking redress from the house builder. The last 15 years has witnessed a constant clamour from both buyers and government for improvements in the quality of the finished product delivered by the house building sector of the UK construction industry. Various working parties have set up and reported back, all of them outlining methods for improving quality within the construction industry e.g. Latham (1994) and Egan (1998), albeit these reports have focused their attention upon commercial and not the private house building sector. However, the Barker Review of Housing Supply (2004) moved the emphasis towards the housing sector and in particular, the private house building arena.

In the private house building arena the house builder sets the specification requirements (finished product), the customer is perceived as a simply a 'buyer' who

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purchases the final product with its inherent defects or as they are colloquially known in the trade, 'snags'. The on-site process of identifying these snags and achieving remediation, being called 'snagging'. The importance of snagging is shown by the fact that the three Housing Forum customer satisfaction surveys carried out in 2000, 2001 and 2003 and the Home Building Federation (HBF) customer satisfaction surveys in 2006/7/8/9 report an increasing number of new home purchasers as being unhappy with the finished quality of their new home and an increase in the number of home owners reporting 'snagging' items. As the new home buyer is perceived as the customer, they therefore have no control over the quality of the finished product. In other words if the house builder constructs the new house to the original specifications that they have set, they will consider the new home to meet the "quality standard". This would indicate that a new house builder is concerned with the technical quality of the building such as the foundations and structural integrity rather than the functional aspect such as the paintwork and the aesthetics.

The term 'quality' is the key. Most home owners tend to be technically inexperienced and thereby are more likely to have a strong emotional attachment with the quality of the product itself and the softer issues of quality such as the aesthetics because they view the technical aspect as a 'given' covered under the various regulations and standards. These two aspects of quality can be termed as Technical Quality (TQ) and Functional Quality (FQ).

TECHNICAL AND FUNCTIONAL QUALITY

Gronroos (2001) although referring to service quality describes two quality dimensions that are very different in nature: Technical Quality (TQ) is concerned with 'what the client gets' and Functional Quality (FQ) which is how the process itself functions. Gronroos' theory is that FQ is of more importance to the customer than TQ as long as the latter is on a satisfactory level. Hoxley, (1994) comments that FQ should be important for many service industries in which the TQ aspect is very similar among the firms operating in the market. House building in this respect is very similar, using a set of common technical specifications and therefore it is FQ aspect that should be of utmost importance. Ferguson *et al.*, (1999) indicated that the technical aspects of a service can be treated like the quality specifications (structure, sanitation, fire safety, ventilation, roofs, walls, heating etc. in the management of physical goods although TQ itself is not sufficient to ensure total quality. The functional aspect of quality depends upon how the customer perceives and responds to the product and overall consumption of the service. FQ can also depend upon attributes that are not normally considered when measuring TQ (e.g. cleanliness of the product, presentation, and look and feel) although as a customer it is a basic given that any brand new product you buy will be clean, working and ready.

Pitcher (2004) writing about the customers' perception reality gap comments that as someone who has been measuring house building customer satisfaction for a number of years he truly believes that at the very least we must deliver what may be termed as a given: TQ. Customers are not able to discern the TQ aspect of service with accuracy and therefore often rely upon other measures of quality attributes, those associated with FQ (Kang, 2006) although the FQ aspects can depend upon the attitude and behaviour of service personnel providing the product (Ferguson *et al.*, 1999). In the new build housing market, customers are prepared to pay for a premium product but only if the quality in design, construction and after care is delivered (Stephenson and Carrick, 2006). Given this, it becomes more important for house builders to

understand customer expectations and preferences to ensure that they are providing the complete value package (Stephenson and Carrick, 2006). Part of the problem with resolving the quality problem in housing is that unlike other industries, the private house building sector has not tried to define what its customer's expectations and priorities are (Auchterlounie and Hinks, 2001) despite an increase in customer awareness and sophistication.

THE BARKER REVIEW 2004

The Barker Review (2004) considered housing supply within the UK with much of the report concerning planning, development and housing economics and whilst these areas are important they not the focus of this research. Section six of the Barker Review deals with the actual development of the house building industry and it is this section which is of particular relevance. Section 6.28 of the Barker Review deals with customer satisfaction and specifically states: "house builders do not have to deliver a good product or high levels of customer service to win market share".

This suggests that no matter what the end quality of the new home is, sales are inevitable. The main emphasis of section six of the Review is on customer service quality and not quality of the product. The Review rightly highlights the low standards of many of the leading house builders (by volume) and of nine house builders that performed worse than industry average according to the 2003 Housing Forum Customer Satisfaction Survey, four, Persimmon, Barratt, Wilson Connolly and Westbury were among the top 10 house builders in 2002 by volume.

Section 6.29 indicates that the industry's customers (house buyers) are expressing concern about the quality of service, construction, workmanship and finish. This concern over quality and low customer satisfaction figures reported during the 2000, 2001 and 2003 Housing Forum surveys are to some extent underpinned by a lack of adequate consumer protection. Indeed recommendation 32 of the Barker Review highlights that the house building industry must demonstrate increased levels of customer satisfaction by Increasing the proportion of house buyers who would recommend their house builder from 46% to at least 75% by 2007 and over the same period increase customer satisfaction levels with service quality from 65% to at least 85% over the same period.

Over the period 2004-2007 the percentage of home owners recommending their house builder has indeed risen to 77% and therefore exceeded the target of the Barker Review (target 75%). Although over the same period the levels of customer satisfaction with overall service quality have only risen to 78% (target 85%).

According to the results above, it would seem that great strides regarding customer satisfaction have been made within the house building industry. There is however room for further improvement within the customer satisfaction domain and the full set of results from the customer satisfaction surveys discussed within the next section suggest that much more work has still to be carried out if the targets of Barker are going to be met, and indeed exceeded, resulting in customers that are happy with the service, condition, finish and overall quality of their new home.

CUSTOMER SATISFACTION SURVEYS 2000-2009

The performance of the private house building sector of the UK construction industry has been measured in recent years using national customer satisfaction surveys. The idea of assessing customer satisfaction with new homes began in 2000 with the first

survey published by the Housing Forum which is now part of Constructing Excellence. Additional surveys have since been carried out by the Housing Forum in 2001 and 2003 and the Home Building Federation in 2006/7/8/9. These surveys have focused upon the opinions of the house buyer (the customer) in order to generate house building industry results that reflect the customer's opinion of their newly built home. Gates, (2005) reports that back in 2000 several house builders were enthusiastic about the idea of customer surveys because they believed that the good house builders would be vindicated. The first survey however revealed widespread dissatisfaction and Gates, (2005) indicates that some leading house builders were furious with the below average marks they received that placed them at the bottom of league tables.

When these customer surveys were carried out, very similar questions were asked each time. For example, the question regarding overall service was worded in 2003 by the Housing Forum as: "Overall, how satisfied or dissatisfied are you with the service provided by your house builder, taking into account the service both before and after you moved in?"

Although the same question regarding service within the HBF survey of 2007 however was worded as: "How satisfied or dissatisfied were you with the service provided by your builder during the buying process?"

Since similar questions have been utilized in each of the Seven surveys, it is possible to combine the results for the national surveys of 2000, 2001, 2003, 2006/7/8/9 and from this combination identify trends from within this particular period as displayed in Figure 1. What is evident from Figure 1 is that the overall levels of quality, finish, and condition of the new home display downward trends from 2000-2006 and since 2006 have somewhat 'levelled off'. At the same time, the amount of home owners reporting snagging within their new homes is on the increase having risen by 14% over the last 9 years to a staggering level of 95%. Also noticeable is the rise in homeowners recommending their house builder between 2003 and 2006 which just so happened to coincide with the target dates set within the Barker review. No explanation is provided within the surveys for this rapid increase in customers recommending their house builder. The apparent misnomer in that the overall quality is falling and yet the buyers are happier with overall service and satisfaction would perhaps lie in the improvement in the approach to Functional Quality/snagging being implemented by the house builders (Technical quality being taken for granted). What can be determined from the results is that the level of service seems to be the overriding factor and if the level of service is deemed to be sufficient from a home buyers point of view then overall satisfaction figures will rise despite a drop in quality and a rise in defect levels found.

If no action is taken to prevent the trends of dissatisfaction (snagging, overall quality, and overall finish) continuing it can be assumed that the overall quality of new build homes will continue to decrease. In comparison however, the new build housing KPI's in relation to defects taken over a six year period 2001-2006 (just before the Barker report key dates) show an increase in the number of organizations scoring 8/10 or better from a figure of 50% in 2001 to a figure of almost 78% in 2006.

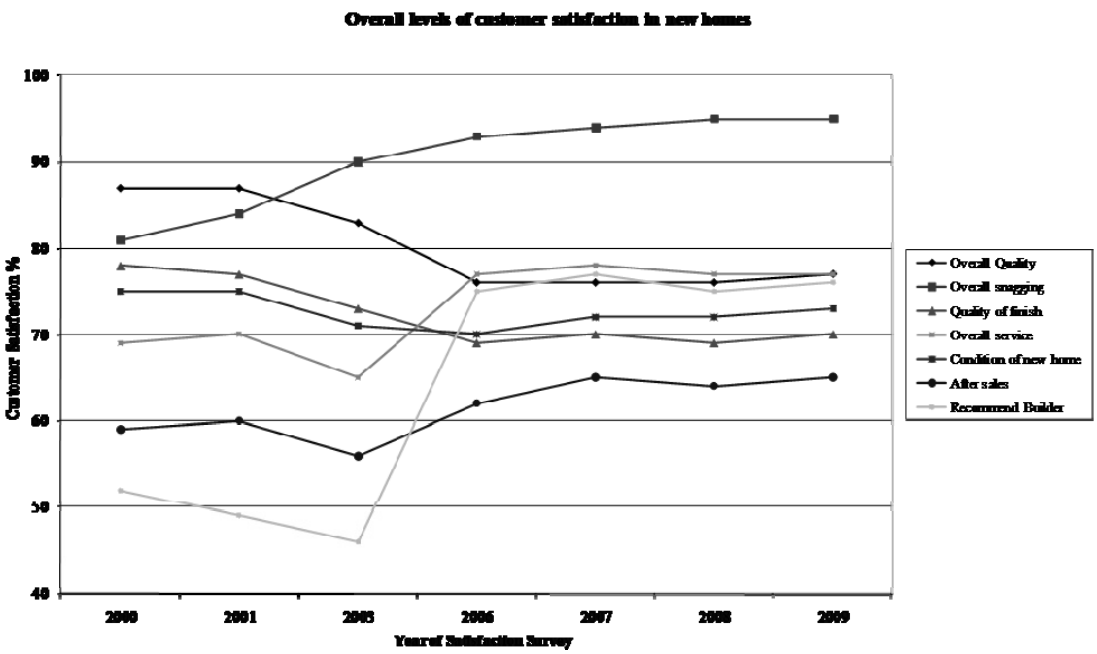

Figure 1: Trends from housing surveys 2001-2009 (adapted from Constructing Excellence, 2000, 2001, 2003 and HBF 2006/7/8/9).

We thus have an industry which indicates that performance levels are increasing with regards to overall satisfaction and reduction in defects levels (according to the house builders), but end customers who indicate that the overall satisfaction levels are increasing on the back of improved service levels whilst at the same time the overall quality of their new homes is decreasing whilst snagging levels have risen dramatically.

It is clear that there is an underlying problem for the purchaser of a new house. More often than not the main driver behind purchasing a new home is to remove the hassle associated with having to do some amount of remedial work that can be associated with purchasing a second hand home. New house buyers appear to be receiving little assistance from house builders when it comes to rectifying these defects and snagging. The new house buyer has little protection under law and what little legislation there is does not give the consumer the same rights as those who buy standard day-to-day products. The link between the levels of customer satisfaction reported in the Barker Review and FQ and TQ have been discussed within this section although it is noted that the customer (home buyer) is more concerned with the functional aspect of quality rather than the technical aspect because they view the technical aspect as a 'given'. It is apparent that despite everything that has been written about quality or indeed the lack of quality, the problem still exists within the private house-building sector.

METHOD AND DATA ANALYSIS APPROACH

The data sets available for analysis within this piece of research were limited both in terms of the actual quantity of data available and the access to such data sets from members of the construction process chain. The data used in this research was provided and extracted from the UK's leading and most well established independent snagging organization. It could be argued that this is a biased population. However the contrary may also be argued since it is the only detailed independent dataset available within the industry and as such, is deemed to be robust until new data sets are made

available within the public domain. Detailed inspection reports in 'word' format for 3696 homes have been formatted and analysed, with the resultant dataset containing detailed information on circa 190,000 individual snagging items found within the 3696 properties built by some 450 house builders between 2002 and 2006.

The sheer physical volume of data provided, was at the outset of the research very overwhelming and therefore data handling techniques were required. The data set necessitated the use of a further data management system other than Excel, namely Microsoft Access. Access could manage all 199,095 items within one database and therefore the 'content analysis queries' which were an essential part of this research could therefore be undertaken. The data handling capabilities of Access proved to be of great benefit as the software significantly increased the rate at which the 'content analysis queries' could be undertaken formatting 2.5m individual data cells.

Utilizing a content analysis approach, the database of snagging items was available to use and analyse although further formatting and coding (TQ/FQ etc. of the data was required to allow full analysis to take place in relation to the TQ and FQ aspects of quality discussed within this research. Georgiou *et al.*, (1999) grouped snagging items under three different headings these being technical, omissions and aesthetic; therefore it was decided that the snagging items to be analysed would be placed under one of these options or a combination of the three options (see Figure 2) as no identified literature attempts to breakdown snagging items under alternative codes. Coding the snagging items under the headings proposed by Georgiou *et al.*, (1999) also meant that the items could also be coded using the TQ and FQ aspect of quality as proposed by Auchterlounie in 2004. For reasons of simplicity, the coding criteria 1-7 below in Table 1 (with brief example) were used within the final analysis.

Table 1: Coding criteria with explanation of particular code

Code number	TQ or FQ or Omission related	Description of potential item
Code 1	FQ	FQ items basic in nature such as a damaged corner of a kitchen worktop
Code 2	TQ	Items of a technical nature which could be aesthetic. May include 'floors creaking due to not being fixed down correctly'
Code 3	TQ	Items of a technical nature which often breach regulations. For example 'no frosted glass on the en-suite skylight'
Code 4	TQ	Items of a technical nature and an omission that affect home performance such as 'no jacket to tank in airing cupboard'
Code 5	Omission	Something simply not there. May be coded under codes 4/6
Code 6	FQ	An omission item that is also visual to the eye but does not affect performance
Code 7	FQ/TQ/Omission	A combination of all codes

It is also important to discuss the how the terminology chosen for the content analysis as it is this terminology that will determine the results for the TQ and FQ aspects. 149 search terms were extracted from a 450-point checklist which for reasons of confidentiality cannot be disclosed within this research. As the queries were taking place, each search criteria was extracted from the main database and a further check and manual verification of the coding for each search criteria was undertaken in order to clarify that the coding assigned was indeed applicable to the specific search criteria. This manual verification was essential as no two snagging inspectors who collected the data recorded items in the same way, simply left to their own interpretation. This then allowed the researcher to allocate items into the seven codes identified.

Table 2: Results of the content analysis approach in relation to the 149 search terms

Snagging Item	Total	%	Snagging Item	Total	Snagging Item	Total
Make good/making good	20752	**10.4**	Lock	645	TRV missing	215
Paint/painting	19347	**9.7**	Square/not square	613	Key	209
Clean/cleaning	12240	**6.1**	Uneven/un-even	609	Daylight	209
Plaster/plastering/tape/taping	11580	**5.8**	Pipes/pipe/pipe work	591	Hinges	207
Re mastic/paint/decorate	7846	**3.9**	Poor/poor room/poor quality	589	Pin holes	193
Fit/fitted/fitting	7425	**3.7**	Clip wiring/wire	585	Phone	193
Level/not level	7210	**3.6**	Split	568	Lining/linings	189
Seal/sealed/sealing	5766	**2.9**	Sand/ridge/joint/joints	547	Tighten	185
Damage/damaged	4747	**2.4**	Cupboard/airing	547	Tested	184
Mark/marked	4476	**2.2**	Plumb/not plumb	514	Knots/knotting	184
Missing	4302	**2.2**	Latching/locking	511	Isolating valve/isolators	181
Scratch/scratched	4212	**2.1**	Touch-up/touching up	510	Cutting in	178
Touch up	4122	**2.1**	Rail/rails	503	Power	174
Grinning	3774	**1.9**	Radiators/boiler	488	Flue	171
Loose	3536	**1.8**	Wall/walls	484	Flash/flashing	168
All other items	3221	**1.6**	Caulk/caulking	476	Wired/wire/cable	166
Door/doors	2854	**1.4**	Silicone	452	Straighten	165
Mastic/masticing	2818	**1.4**	Toilet/WC	442	Washing machine	162
Crack/cracked/cracking	2706	**1.4**	Remove	441	Boxing	160
No - miscellaneous	2526	**1.3**	Shower	441	Mitre/mitred	159
Adjust/adjusting	2160	**1.1**	WHB/Sink	415	No shelf/jacket/loft hatch	158
Grout	2136	**1.1**	Glazing/glass	407	Label valves	138
Chipped/chips	2030	**1.0**	Mortar/cement	388	Ventilation	133
Window/windows/sill/cill	1795	**0.9**	Nail/nails	383	Ironmongery	132
Gap/gaps	1710	**0.9**	Mitres	372	Fire	130
Hole/holes/dent/dents	1701	**0.9**	Replace	371	Stone	129
Tidy up/tidying	1580	**0.8**	Dig in	369	Pop up waste	128
Poor finish	1530	**0.8**	Extract/extractor	369	Stair/stairs	122
Secure/securing	1465	**0.7**	Pencil marks	362	Lumps/bumps/dig	121
Décor/decorate/decoration	1398	**0.7**	Trickle vent	358	Ceiling joint	120
Paint runs/flaking/under/run	1384		Creaking/squeaky	351	Leading edge	120
Pointing	1326		Coving	347	Roof tiles/felt	118
Not working	1282		Sockets/switches	347	Velux	104
Ceiling/ceilings	1163		Carpet	340	Beading	102
Earthing/earth bonding	1144		Closed when wet	333	Driveway	94
Nail pops/popped	1094		Repair	328	BT	90
Lighting/light switch	999		Hot water/water	324	Straps	89
Door stop	959		Rubdown/sand down	323	Ditto	89
Floor/flooring	930		Newel (post)	311	Soiled	84
Needs attention	926		Wardrobe	310	Plug	79
Skirting/architrave	921		Easing	307	Gutters/gutter/guttering	72
Tile/tiles/tiling	914		Hob and Oven	307	Kitchen units	68
Rough	887		Render	296	Work surface	66
Excess/excessive	841		Access panel	290	Bath panel	60
Front/rear/elevation/elevations	826		Lag/lagging	287	Defects/no defects	52
Dirty/debris	822		Front	286	Drains/manholes	48
Screw/screws/screwed	784		Consumer unit	247	Wiring/wires	33
Stain/stained/staining	774		Patchy	223	Bracing	24
Leak/leaks/leaking	762		Heater/heating	220	Communals	16
Broken	678		Bracket/brackets	216	Total snagging items = 199095	
		78			**Total Percentage**	

RESULTS AND DATA ANALYSIS

The previous section discussed the 149 search 'terms' that would be used to search the main database of snagging items. The final results of the content analysis can be seen in Table 2. Each search item when extracted was checked manually (the full database was manually verified) within the Excel database to verify if the coding applied to the particular search criteria was indeed the correct coding. The reason this exercise was undertaken was to ensure that the researcher was in total control of the main 200,000 strong database, analysing and verifying smaller data sets provided the researcher with

the function to complete the verification of each search term as and when it was carried out. The number of 'hits' returned for each content analysis query varied significantly. The largest query undertaken returned 20752 snagging items, all of which were functional items and the smallest query undertaken returned only 16 snagging items. Table 2 also demonstrates that the 80/20 rule can be applied to this particular research. Of the 149 search terms, 20% of the terms used to search the main database (30 search terms) are responsible for nearly 78% of the total snagging items observed. In other words, 80% of the snagging items arise from 20% of the causes. The object of the 80/20 rule is that the 20% is vital and the 80% is trivial. For the private house building industry, concentrating on the 20% of causation items will mean a reduction in snagging items of nearly 80%. The identification of these causation items allows the focus to be directed towards the few options that provide the greatest benefit.

The methodology discussed the seven potential snagging codes related to FQ, TQ and omissions. These seven codes were also applied to this research. Figure 2 displays the results of the coding from the dataset. What can be determined from Figure 2 is that there are ZERO items within code five which is the omissions category. Also highlighted within Figure 2 is code one within which 88.9% of all snagging items can be applied to. This means that 88.9% of all snagging items are aesthetic or of an FQ nature and could therefore be avoided. This particular finding can be related to the research of Auchterlounie in 2004 who commented that FQ is the aspect of quality that the new home owners are interested in as they see the TQ aspect of quality as a 'given' due to relevant warranties and building certifications being in place.

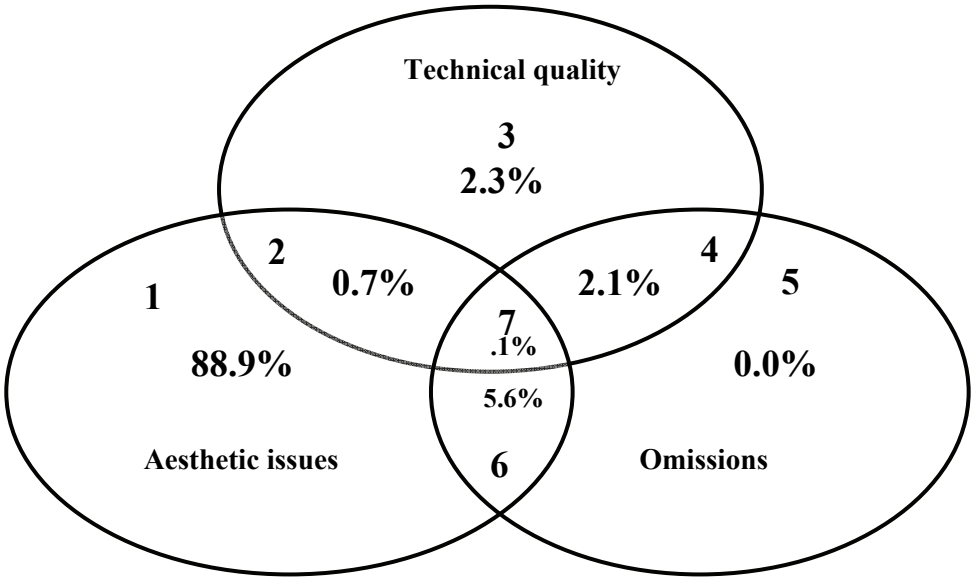

Figure 2: Average number of snagging items per snagging scenario.

Items within scenario four were identified as being the only items that could also be potential breaches of the NHBC or other relevant regulations. Although the focus of this research was on the identification of TQ and FQ items of snagging it is nevertheless important to examine snagging items which may be deemed as potential breaches of NHBC and building regulations. The items classified under code four were re-examined in order to identify the items that could be deemed as breaches of the relevant NHBC and building regulations. A total of 2577 (1.3% of the total database) snagging items have been identified as items that can be considered as breaches of the relevant building regulations.

CONCLUSIONS

The private house building industry, when building to their pre-determined specifications, hand over new homes some of which may be perceived to be of good quality. The reality however, is that new homes continue to be beset with snagging items and the house builders continue to have a very relaxed attitude towards snagging which may directly affect customer satisfaction levels.

Private house building organizations are aware of the effects snagging and defects have upon the homebuyer but they continue to turn a 'blind eye' to the subject because consumer legislation has yet to be tested, and hence could be seen as 'favouring' the builder. Despite the influence of defects upon the home buyer, the national customer satisfaction surveys continue to indicate that many new home buyers would buy another new home and many would recommend their particular house builder to their friend. Even though the number of homeowners reporting snagging has risen to a staggering level of 95%.

The lack of detailed research in the area of defects and snagging within new homes inhibits a more robust conclusion on the findings of this research i.e. directly with prior work/s. This is no more apparent than in the area of TQ and FQ. In reality however, it is not the TQ aspect of quality that the new house buyer is concerned with. There is a gap between buyer expectations and what the industry delivers in the way of FQ (aesthetics) and TQ (building standards).

Even the technical quality would appear to be at odds with what the new home buyer expects and yet there is scant evidence of effort being applied within the industry to bridge this gap between TQ and FQ. This despite the fact that research has demonstrated the links between functional quality and customer satisfaction. It is the FQ items that the customer is more concerned about and this research shows that the functional aspect of quality is the largest cause of snagging items resulting in nearly 95% of all snagging items identified from a database of 199,000.

Pooling efforts into reducing the functional aspect of quality would result in lower levels of snagging and higher levels of customer satisfaction being achieved across the private house building industry. This will not only improve industry performance and sustainability but also result in customers being more satisfied with the overall quality of their new home.

The research within this paper has demonstrated that snagging levels found within new homes in the UK must be perceived as damaging to the house building sector's image and they detract from customer satisfaction. The house builders of course could be asked to shoulder some of the blame for this lack of quality focus but the responsibility may better sit on the shoulders of the numerous buyers who have accepted products with lower than anticipated quality standards.

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